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ABSTRACT

This monograph is an overview and state of the art paper for the use of the Myers-Briggs Type Indicator in the health professions. The Myers-Briggs Type Indicator is a questionnaire which makes it possible to test and put to practical use that part of the personality theory of C.G. Jung which is concerned with psychological type. Nine areas of interest in studying type differences in careers are listed. The sections of this monograph cover the following areas: types of students interested in health professions; type differences in educating and training people to enter the health care delivery system at all levels; and type differences in specialists in the health professions. (Author/GK)

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APPLICATION OF THE MYERS-BRIGGS TYPE INDICATOR TO MEDICINE AND OTHER HEALTH PROFESSIONS

MONOGRAPH I

MARY H. MCCAULLEY, PH.D.

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FINAL REPORT

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Bureau of Health Manpower
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Report prepared by

Mary H. McCaulley, Ph.D.
and the Staff of
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This report was prepared under a contract to the American Medical Student Association Foundation. At that time, the Center for Applications of Psychological Type was a part of the AMSA Foundation, which is a public foundation concerned with social health problems. Foundation programs are geared toward institutional change and developing human leadership potentials.

At the time of this reprinting, the Center for Applications of Psychological Type, Inc. is an independent, non-profit public organization for education, research and services. Its goal is to foster the use of C. G. Jung's insights about psychological types for the constructive use of human differences, through its publications, workshops and other training programs, research and scoring services for the Myers-Briggs Type Indicator. CAPT is authorized to distribute the Monographs prepared under this contract by the provisions of the contract.

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ACKNOWLEDGEMENTS

This monograph, and the other reports which were included in this project, could not have been prepared without the support and cooperation of a large number of people.

The project reported in these monographs rests on the creative inspiration of two great spirits. The first was C. G. Jung, the renowned Swiss physician and psychologist, whose insights into differences in his patients led him to formulate his theory of psychological types to explain how normal people could vary so greatly in the ways they experience their world. The second is Isabel Briggs Myers who, with her mother, Katharine C. Briggs, took Jung's theory in all its complexity and created an instrument, the Myers-Briggs Type Indicator, to make it possible to test the theory and to put Jung's insights to practical use. Her dedicated and careful work over many years established a body of data showing that Jung's theory is useful in understanding and predicting differences in motivation, aptitude, achievement and choice of careers.

Her large longitudinal studies of over 5,000 medical students and over 10,000 nursing students established the groundwork for understanding type differences in the health professions. For thirty years, Isabel Briggs Myers has been concerned with the selection and training of health professionals. Her dream has been that Jung's theory could be used to improve the selection of those who have already gained good command of the excellence of their type, and to train them so that they raise their gifts to high levels of excellence, and also learn well the necessary skills that come less easily to their type. They will then give their patients better care, and will themselves be better able to withstand the stresses of their calling.

The entire thrust of the work of Isabel Briggs Myers has been to help individuals develop their own gifts, and to help them learn to respect, admire and enjoy the characteristics of individuals whose types are very different from their own. We have tried to follow this philosophy in preparing this report. Any failures to deal evenhandedly with the types come from our own inabilities to follow her wise example.

The project was undertaken to supply answers to questions of an increasing number in the health professions who have sought advice about the usefulness of the MBTI for practical problems they are facing in selection, training and counseling. The idea of creating a set of normative tables and state-of-the-art descriptions of type differences in health follow naturally from these requests. Special appreciation is due to David Kindig whose discovery of the usefulness of the MBTI in health teams led him to encourage CAPT to organize our data as a basis for moving ahead, and to Paul Wright who made available the expertise and resources of the AMSA Foundation whenever they were needed. The Division of Medicine of the Bureau of Health Manpower provided the financial support that was essential in making the project possible.

A major task was to bring together for the first time a Bibliography of research with the Myers-Briggs Type Indicator. The main responsibilities for the literature search fell to three psychology graduate students, Janet Falgout, Bobbie Lee Irving and Charles Morgan. Brian Van Duzee created a computer program for listing and indexing references, and Ruth Lewis organized references as they appeared, corresponded with authors, keypunched all bibliographical entries, and otherwise coordinated the team's activities. In the summer of 1977, Janie Sweet took over the coordination of the bibliography team whose efforts culminated with a bibliography of over 400 entries.

Dr. Margaret Morgan, Director of the Center for Allied Health Instructional Personnel of the University of Florida organized activities for soliciting help of MBTI users through professional journals, and through personal contacts. She also contributed substantial samples of data in allied health fields, and sparked the interest of her graduate students who provided data and research findings.

The projects reported in these monographs were in large measure computer studies. Janet Allen established the original CAPT data bank and managed the first stages of the analysis of the Myers Longitudinal Medical Study. Jo Ellen Wallace was responsible for coordinating the data of the Myers study and of the CAPT data bank study, and additional cases supplied by outside users. Without her persistence in tracking down inconsistencies, her careful attention to detail, and her ability to bring order out of confusion, these projects could not have succeeded. Richard Kainz carried the major responsibility for computer analysis of the data bank studies, and Brian Van Duzee carried major responsibility for data analysis of the Myers Longitudinal Studies. The main assistants were Ruth Lewis, Charles Morgan and Patricia Butler. In addition, Ruth Lewis carried out the analyses of the comparisons of the MBTI with the Strong Vocational Interest Blank; Charles Morgan did the supplementary analyses of community size for the Myers study, of the

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PART I

INTRODUCTION

This Monograph, entitled Application of the Myers-Briggs Type Indicator to Medicine and Other Health Professions, is the first of a three-part final report for Contract No. 231-76-0051 of the same name, prepared for the Division of Medicine, Bureau of Health Manpower, Health Resources Administration, U.S. Department of Health, Education and Welfare. The three parts of the report have been designated Monograph I, Monograph II and Bibliography. Monograph I is an overview and state of the art for the health professions; Monograph II reports on a little-known longitudinal study of 5355 medical students tested in the 1950's, and twice followed up to see if they had chosen specialties consistent with theoretical predictions for their type. The third part of the report is the *Myers-Briggs Type Indicator Bibliography,* prepared as a computer listing which can more easily be kept current.

A. Scope and Design of Project

1. Reason for Project and Relevance to Health Professions

The Myers-Briggs Type Indicator is a questionnaire specifically designed by Isabel Briggs Myers and Katharine C. Briggs to make it possible to test and put to practical use that part of the personality theory of the Swiss physician and psychologist, C. G. Jung which is concerned with psychological type. The theory has particular relevance to many practical issues, because it attempts to explain why normal people see the same event very differently, and how they can start from the same data and come to quite different conclusions. The essence of the theory, which will be described more fully in a later section, is that "much apparently random variation in human behavior is actually quite orderly and consistent, being due to certain basic differences in the way people prefer to use perception and judgment" (Myers, 1975, p. 1).

Type differences occur in almost every human activity, because type theory is concerned with fundamental processes of behavior. Differences in the way situations are perceived affect interests, motivations and knowledge of the situations themselves. Differences in judgment affect the content and style of decision-making. Differences in attitude affect the relative weight given to impersonal factors and subjective ideas, and to relative importance of understanding events or of controlling events. It is a common experience for those becoming acquainted with Jung's theory to experience a sense of familiarity because Jung's constructs and observations fit everyday observations of life. The strength of the theory is that it puts together these everyday observations in ways that increase understanding of events and permit clearer conceptualization of issues and more refined predictions.

Jung's theory, which grew out of his clinical observation, was originally published in 1921 (Jung, 1971). Myers and Briggs began developing the Indicator in the 1940's. It was published as a research instrument by Educational Testing Service in 1962. A few medical schools incorporated it into longitudinal studies in the late 1960's, and it was discovered by a growing number of researchers and counselors in public schools, community colleges, colleges and universities, and professional training programs in the late 1960's and early 1970's. In addition, a body of data on careers began to build up, as counselors discovered the usefulness of the MBTI in helping young people develop self-understanding as part of career planning. In October, 1975, Consulting Psychologists Press became the publisher of the MBTI, and for the first time it was available to psychologists through normal distribution channels. The following month, a nationwide conference on MBTI attracted over 200 people from throughout the United States and Canada to Gainesville, Florida to discuss their use of the Indicator in careers, teaching and learning, counseling, and personality research. At the conference, Mr. Takeshi Ohsawa from the Nippon Recruit Center in Tokyo, Japan, described findings with the Japanese translation of the MBTI. His distributions of production, sales and management people were consistent with those found in the United States, thus giving some support to the generalizability of Jung's theory based on MBTI findings. He unfortunately had no data on health professionals.

During the developmental phases of the MBTI, Myers herself had collected two large samples of data on health professionals. The first was a sample of 5355 medical students from 45 medical schools, tested in the 1950's. Myers had analyzed the data to see if the type differences in aptitude and achievement were consistent with type differences found in high school and college samples, and had also looked up the entire sample in the 1963 American Medical Director to see if students had chosen specialties which would let them use their preferred modes of perception and judgment, as predicted from Jung's theory. The report of this work was presented by Myers at the Annual Meeting of the American Psychological Association in 1964. It is reproduced in Monograph II, which gives a full report of the Myers Longitudinal Medical Study.

In 1964 and 1965, Myers collected a sample of 10,271 diploma nursing students from 71 nursing schools, along with 670 of their faculty. She obtained data on dropouts from all the first-year students and some in the second year. Some schools provided admission test scores and final grades, and a few fragmentary data were also provided on specialty choice. Most of these data remain unanalyzed, and the tasks of keypunching them and running computer analyses were beyond the scope of this project. A beginning was made, and some of Myers' preliminary findings will be given in the appropriate sections.

Three universities developed centers of interest in the MBTI—Auburn University, Michigan State University, and the University of Florida—in that chronological order. Graduate students in these universities began to learn about the MBTI, and as they graduated and moved to new settings, others learned of it and began to use it. A collaborative project began in the early 1970's between Isabel Briggs Myers and Mary H. McCaulley, a clinical psychologist in the College of Health Related Professions at the University of Florida Health Center. The purpose of the project was to make it possible to individualize MBTI reports, with specific suggestions for improving command of one's powers of perception and judgment. As a byproduct of this research, faculty at the Health Center of the University of Florida began testing their students. As they discussed their findings at professional meetings, and as their graduate students conducted research, interest in the MBTI began to grow in the health professions. Under the joint sponsorship of the University and the Association of American Medical Colleges, a small invitational conference was held in Gainesville in June, 1973, and an MBTI interest group met together at annual meetings of the Association of American Medical Colleges.

The MBTI was incorporated into longitudinal studies in medicine at New Mexico, Ohio State and Washington in the 1960's and since then longitudinal data have been collected at Alabama, Cincinnati, Florida and Florida State, Medical College of Georgia, Hahnemann, Hawaii, Illinois, Kentucky, Michigan State, Missouri (both Columbia and Kansas City), Medical College of Ohio, and Virginia. Interdisciplincary health team projects at Montefiore and at the AMSA Foundation began using the MBTI with faculty and student teams. Residency programs, especially in family medicine, began using the MBTI in the middle 1970's.

The MBTI was incorporated into projects of the American Medical Student Association Foundation, including the Medical Education in Community Orientation (MECO) project of 1973, and the Interdisciplinary Health Team Project. In 1975, the Center for Applications of Psychological Type (CAPT) was formed as part of the AMSA Foundation, to serve as a provider of services and consultation to MBTI users for practical applications of the MBTI "for the constructive use of differences." The AMSA Foundation is a public non-profit foundation dedicated to developing leaders in health.

One of the services of CAPT is computer scoring of the MBTI. The program to provide these services was developed by Myers and McCaulley as a research tool for their cooperative research to individualize the MBTI. The program was used for research from 1970 through 1975 and for both research and service by CAPT since 1975. Both Educational Testing Service and Consulting Psychologists Press recognized the McCaulley-Myers arrangement as the official computer scoring for the MBTI and have referred requests for service to them. This fact is a critical element in the present project, since a byproduct of the scoring services and research scoring is the largest data bank of MBTI cases in this country. The analysis of this data bank for cases in the health professions was a major task of the project reported in this monograph. The data bank contains over 75,000 cases scored since 1970. About 25-30% of these cases are students or practitioners in health.

As a result of growing interest in MBTI findings from a number of sources, inquiries came into CAPT for normative populations in the different professions, so that individual programs could have a basis for comparison with their own students. Schools offered to share some of their data in order to increase the pool of information available to all. The data available in the mid-70's showed clear differences between Myers' medical student sample of the 1950's and the distribution of medical students tested in the 1960's and 1970's. Health professions also seemed to differ in the distributions of types attracted to them. Some schools were beginning to find type differences in traditional and independent study programs, in aptitude test scores, and in learning styles. Increased student demand for better career guidance while in professional training led to requests for counseling tools using the MBTI.

The present project was designed to establish the basic descriptive data needed to begin answering questions about the range of practical uses of the MBTI in making selection decisions, in improving teaching, in providing career guidance to students and professionals, and in understanding how individual choices affect manpower trends in health.

The project included these specific tasks:

a. To organize and make available in useful form the information on students and practitioners in the health professions from the CAPT data bank.

b. To search for other MBTI data in the health professions, and to add any data discovered to the data bank findings.

c. To complete a second follow-up of the Myers Longitudinal Medical Study and to prepare a monograph on the entire study.

d. To prepare a Bibliography for the MBTI.

e. To discuss the uses and limitations of the data for decisions relating to selection, training, advising and deploying professionals in health.

2. Basic Assumptions of Type Differences in Careers

It is important to understand that the investigators started with the basic assumption that differences are valuable and necessary, and that any field as complex as health needs all MBTI types. We did not expect to find "one right type" for any health profession, but we did expect that most professions would attract some types more than others, and that these attractions could be explained by the theory of psychological types.

From the position of type theory, a successful career choice would be a career in which the bulk of the activity is in the area of natural interest and developed skills of each type. Careers which call on use of one's preferred powers of perception and judgment provide activities which are intrinsically interesting and and satisfying (motivation) and require use of one's best-developed skills (competence). Successful career choices should not only be more satisfying to individuals, but are valuable to society, since greater productivity occurs when people are interested in and competent in their work. Good career choices are particularly important in health, since disinterest and inexpertness are serious when patients' lives are at stake.

From this viewpoint, influences on careers of factors such as availability of training, wishes of friends and family, charismatic professors, or potential income, while important, should not outweigh the necessity of finding a career that will fit one's deepest interests and call on one's greatest strengths.

In studying type differences in careers, a series of questions are asked at each stage of the decision-making process:

a. Selection

From the applicant pool (high school students, junior college students or college students) which types are significantly more or significantly less likely to express interest in this occupation?

(1) What aspects of this career attract each type? (The assumption is that opposite types may enter the same career with very different motivations.)

(2) From those who apply, which types have the highest and lowest scores on the academic and other variables used as criteria for selection?

(3) From those who apply, which types are significantly more often selected or rejected for admission? Of those selected, which types significantly more often or less often enter training?

b. Training

In the course of training, how do types differ:

(1) In requisite skills already acquired, and in skills needing additional help beyond normal training.

(2) In preference for, and success in different instructional methods offered (such as programmed learning, independent study, lectures, study groups, preceptorships, or clerkship experiences)?

(3) In attitudes toward the learning environment, and in the direction and rates of change of these attitudes over time?

(4) In readiness to learn specific tasks, information and professional attitudes?

(5) In rate of success, as evaluated by different measures, such as written examinations, observation of clinical performance, oral examinations, or faculty ratings?

(6) In response to environmental changes? (These questions deal with differences across schools with different policies and missions; differences in the same school as the student moves from one rotation to another; differences over time as programs change. The intent here is to define which types and type differences are relatively constant across situations, and which are especially sensitive to environmental changes.)

(7) In rates of completion of training; in dropout or failure; in reasons for failure?

c. Career Planning

How do types differ in the timing, manner and outcome of career decision-making, as, for example:

(1) In stability of career goals in high school, college, or professional school?

(2) In the range of possibilities considered; the accuracy of knowledge acquired; the weight given to objective and subjective factors?

(3) In changes of plans for specialties and work settings, from early in training to late in training?

(4) In the likelihood of choosing a career that "fits their type" or of changing to such a career if the initial choice is "unsuitable?"

d. Professional Practice

How do types differ in their manner of practice, choice of work setting, and satisfaction and competence in their field, as, for example:

(1) In choices of size of community; practice setting (solo, group, hospital, etc.)?

(2) In the specific activities they find most rewarding or frustrating?

(3) In the activities they carry out themselves, or delegate; in the way they work with other health professionals and assistants? (The assumption here is that what on the surface seems to be the same specialty will, on closer investigation, be handled very differently by opposite types.)

(4) In the likelihood of remaining in the field for which they were trained, or of leaving it?

(5) In the day-to-day level of competence in carrying out professional duties? (The hypothesis here is that those in careers and settings that fit their type will perform more competently.)

We had no expectations of finding data in all categories, but the categories did determine where we looked and how we looked at issues.

The practical applications of MBTI data rest on the adequacy of the answer to the questions above. The accuracy of information shared in counseling and advisement also rests on the accuracy and completeness of the same information, and on the training of counselors in interpreting what information exists.

As we began our study, we asked a question more basic than any of the above: Is there any evidence that Jung's theory, as implemented by the MBTI, can predict or explain the choices and achievements of health professionals?

3. Description of Data and Sources

There are four main sources of data used in this report—the CAPT data bank, data from outside users, the Myers Longitudinal Medical Sample, and data in published research.

a. The CAPT Data Bank

(1) Data Bank Background. The CAPT data bank is a by-product of the CAPT scoring services. Users send cases from throughout the United States. However, the early years of the data bank were heavily biased in favor of Florida and the Southeast. The CAPT data bank is by no means a carefully planned and stratified sample. It has large numbers in some professions because of special interests of some investigators, and very few cases from other large professions.

Because the data bank began as a research file at the University of Florida, most of the early codes, especially for majors and fields of study, reflect the university's coding system. The coding system grew to meet new needs and interests, and new codes for majors and occupations were added as outside users began to send in cases. Information on major fields of study and occupations were entered from the information provided by persons answering the MBTI, on their answer sheets.

Majors and occupations might also be coded for an entire group based on information from the person submitting the cases (e.g., nursing students, residents in family medicine, etc.). The accuracy and completeness of the information on majors and occupations, therefore, depends on four things—the information given by the person taking the MBTI, the information given by the person submitting cases, the coding of the answer sheets which, in the beginning, was done and verified by student assistants, and the adequacy of the coding system itself. People differ widely in the extent to which they give complete information on questionnaire answer sheets.

In interpreting the results of the data bank analyses, it is important to keep in mind these limitations on the data. A more preferred strategy would be a planned collection on a representative sample, using standard classifications of majors and/or occupational levels. Until such time as more representative samples are collected, these data—especially for the professions with reasonably large samples—give a preliminary estimate of type preferences.

(2) Data Bank Analyses. In the first stage of "data bank cleanup," one master list was run of all cases in the data bank in subject major order, and a second list in occupation code order. Psychological Technician, JoEllen Wallace, reviewed both lists to identify incorrect or outdated codes. By using coding records and often referring back to answer sheets themselves, she determined correct coding and created punched cards which Graduate Assistant, Richard Kainz, used to correct the data bank. This work took from July 1 to October 18, 1976, at which time the "health tape" was created. This tape contained 19,254 cases in the data bank showing a health field as a student's major or as an employed person's occupation. The variables of the health tape were listed and Ms. Wallace searched down and corrected impossible values and other errors.

Because there had been a considerable period after the publication of the new MBTI answer sheet when occupation and major were not coded, Ms. Wallace reviewed the entire history of the scoring service to identify all persons submitting cases from any health setting or occupation, and all groups which were identified in any way with health. By referring to basic records, the original master lists, and other lists run for the purpose, type distributions were created for the cases not on the health tape but relevant to this project.

During this period, Ms. Wallace also reviewed cases in each current week's scoring load, and added those related to health. This process continued from October of 1976 through February 15, 1977, at which time the data bank sample included the 19,254 cases on the health tape, plus 6,004 additions, totaling

23,396. At this point the data bank sample was closed out. Any cases scored after February 18, 1977, up to May 15, 1977 were considered "outside" cases.

Ms. Wallace kept the master records for each profession, with the master distributions for students and practitioners from the health tape, and each additional group as these were added. Sub-groups and composites were also developed as data warranted.

Once the data from outside users had been added (see Section b), Ms. Wallace, with the help of other CAPT staff, created SRTT's for composites, students and practitioners in each field, comparing them to high school students, college students, other health professionals, and persons in their own profession. The book of type distributions thus created became the major source summarizing this project, and most tables in this report are summaries of this work.

The analyses of sex differences were done in the summer of 1977. These analyses are based only on the health tape, since the cases added after the health tape were not put on the tape, but were added in bulk by hand. This explains why the analyses of sex differences has smaller samples than the total sample for each profession. A planned analysis by race was dropped. The MBTI answer sheet does not have this information, and very few cases in the data bank or from outside users are so coded.

b. MBTI Information from Other Users

Many users of the Myers-Briggs Type Indicator scored their own cases, ordinarily using the hand-scoring keys obtained from the publisher. The problem of the contract was to try to identify the users of the MBTI who had data on health professions, students or practitioners.

The first issue of *MBTI News* described the contract and asked for help from any users with data on health professionals. It was sent to over 1200 persons on the CAPT address file. Individual notes were added to those known to CAPT as having an interest in health. Announcements and requests for information were sent to the following journals or newsletters: *American Journal of Medical Technology, American Journal of Nursing, American Journal of Occupational Therapy, American Journal of Pharmaceutical Education, APA Monitor, Cadence, Dental Hygiene, HPEER, JAMA, Journal of Allied Health, Journal of American Medical Technologists, Jounal of the American Physical Therapy Association, Journal of the American Society of Radiologic Technologists, Journal of Continuing Education in Nursing, Journal of Dental Education, Journal of Medical Education, Journal of Nursing Education, Journal of Practical Nursing, Nursing Research, Nursing: '76,* and *PA Journal.*

All purchasers of MBTI test materials from the publisher also receive *MBTI News* and information about CAPT.

Special letters and telephone calls were also sent to investigators known from the MBTI interest group in medicine, and other contacts known to be working with data on health. The names of the persons and institutions providing data appear in Appendix A.

A Graduate Assistant, Charles Morgan, reviewed the bibliography for MBTI studies related to health, and distributions found were added to data for outside users.

The CAPT data policy provides that data submitted for scoring belong to the investigator requesting scoring service. No information on any individual may be released by CAPT except to the person who submits the data, unless the individual taking the Indicator submits a signed release.

Users of CAPT services understand that from time to time composite samples of groups of interest will be created. In this report, all composite samples have data from at least two sources.

c. The Final Composite Samples of Areas of Health

Type distributions of the data bank were combined with distributions submitted by outside users, and a few distributions cited in published literature. Table 1 gives the listing of health professions on whom MBTI data were found, showing the numbers of students and practitioners in the CAPT data bank and from outside sources.

d. The Myers Longitudinal Medical Sample

Data for the 5355 medical students in the Myers sample were kept as a separate computer file in all analyses, and they are not reflected in the totals of present-day samples. The two reasons are that the Longitudinal Sample was collected in the 1950's and is clearly different in distribution from today's medical students. Secondly, the sample used Form C, an earlier form of the MBTI, which does not have some of the better items added by Myers in Form F. Details of Myers' records and AMA Masterfile data appear in Monograph II.

4. Data Analyses

MBTI scoring assigns persons to one of 16 types which are generated by the four preferences—EI (extraversion [E] or introversion [I]), SN (sensing perception [S] or intuitive perception [N]), TF (thinking judgment [T] or feeling judgment [F]) and JP (the judging attitude [J] or the perceptive attitude [P]). Each type is defined by four letters (ENFP, ISFJ, etc.) representing four preferences postulated

Table 1

Sources and Distributions of Myers-Briggs Type Indicators in Health

FIELDS OF HEALTH	STUDENTS			PRACTITIONERS			GRAND TOTAL
	Data Bank	Other	Total	Data Bank	Other	Total	
Medicine	4047	2297	6344	1758	123	1881	8225
Dentistry and Allied Fields	842	344	1186	90	6	96	1282
Nursing and Allied Fields	6879	746	7625	2025	610	2635	10260
Optometry	91	-	91	25	-	25	116
Pharmacy and Allied Fields	2175	258	2433	277	2	279	2712
Veterinary Medicine and Allied Fields	121	-	121	21	-	21	142
Clinical Laboratory Services	422	283	705	1177	6	1183	1888
Dietetics and Nutrition	24	191	215	305	4	309	524
Occupational Therapy	376	308	684	155	2	157	841
Physical Therapy	533	558	1091	153	2	155	1246
Physician Extender Services	115	195	310	13	-	13	323
Psychological and Counseling Services	1102	145	1247	1036	170	1206	2453
Radiologic Technology	154	60	214	53	-	53	267
Respiratory Therapy	161	192	353	127	-	127	480
Social Work	140	-	140	169	-	169	309
Speech Pathology	151	64	215	122	-	122	337
Other Health Related Fields[a]	123	299	422	296	148	444	866
Cardiovascular Technology			(52)			-	(52)
Health Administration			(9)			(51)	(60)
Health Education			-			(182)	(182)
Health Related - General			(208)			(51)	(259)
Medical Assistant			(25)			(51)	(76)
Medical Communications			(48)			-	(48)
Medical Illustration			(27)			-	(27)
Medical Records			(53)			(45)	(98)
Outreach Workers			-			(46)	(46)
Totals	17,456	5,940	23,396	7,802	1,073	8,875	32,271
	Total Data Bank		25,258	Total Other Sources 7,013			

[a] Totals for Other Health Related Fields include all cases. Totals in ( ) are for those fields with 25 or more cases and are included as part of the totals for Other Health Related Fields.

to interact in ways specified by the theory. Each type has its unique properties, and shares other properties with other types having letters in common (e.g., all extraverted types share an active orientation toward the environment, but the way this appears will differ depending on the other preferences). The theory and characteristics of the MBTI appear in the following section.

In representing data, the types are displayed in a standard form known as a type table. The greater part of the data in these monographs is in a form known as the Selection Ratio Type Table (SRTT). The purpose of the table is to display compactly and economically any type distribution in comparison with a base population. The base population provides the expected frequencies for the table in question.

Types are not evenly distributed in a population. Thus it becomes important to go beyond an absolute count of types in a profession to determine which types are significantly over- or underrepresented compared to the population from which candidates are drawn. If the profession is equally attractive to all 16 types, then there should be the same proportion in each type as in the base population which represents the pool of potential applicants. Assuming that high schools and colleges represent these pool populations, the students, the practitioners and the composite of students + practitioners in each health field were compared with (1) a base population of 6738 high school juniors and seniors in the CAPT data bank, and (2) a population of 11, 122 college freshmen from the CAPT data bank. In addition, the health professions requiring post-baccalaureate training were compared to a population of 36,714 university and graduate students in the CAPT data bank. These analyses were all designed to answer the questions "How representative are members of this profession of the student populations from which the profession draws?" "Are some types especially more likely to have chosen this profession?" "Are some types significantly underrepresented?"

a. Selection of Health Professions

Where data are available, applicants are compared to a population of those expressing interest, and students actually selected are compared to a population of applicants.

b. Retention and Dropout

When data are available, the dropouts are compared to the entering sample, to see if some types have a higher likelihood of leaving the program, or of remaining to graduate.

c. Groups Within a Profession

Groups within a profession are compared to a base population of the profession, depending on the research question. For example, students in independent study are compared to the total student sample; practitioners choosing a specialty are compared to all practitioners in the profession.

d. Retention in the Profession

To estimate which types trained in the profession are most likely to practice, we compared the students and the practitioners in the same field, wherever the data warranted. These comparisons can have two different interpretations if the distributions are quite different. The difference may mean that some types of students are more likely than others to remain in the field for which they were trained. It may also be that there has been a radical shift in the kinds of people now admitted for training so that students no longer represent the practitioners of old. The data will be presented with tentative explanations, but the best interpretation will come from those actually in the profession.

The interpretation and limitations of the SRTT program will be described in a later section. It is an economical and efficient way of presenting a large number of comparisons in common form, so that predictions can be tested, and at the same time unsuspected patterns can be identified for testing in future research.

e. Comparisons Across Professions

Each profession is compared to the base population of all the health professions, students plus practitioners. In these analyses, it was difficult to determine what base population, if any, would represent a good estimate of persons in the health professions. We considered creating a base population by weighting the type distributions in each health profession in proportion as they occur in the reported populations of all health professionals. We decided against this as it could provide a spurious impression of precision which we did not think were warranted by the data. In the end, we decided simply to use the total population of students and practitioners in health on whom MBTI scores were known. The rankings in the tables in this report should be seen therefore as a very preliminary look at the comparisons of types in different health professions, until such time as better planned and more representative samples become available.

The SRTT is of course not the only way MBTI data are analyzed, and analyses in other forms are also reported for CAPT projects and those of other MBTI users. These include type differences in quantitative variables (such as aptitude or achievement scores), correlations of MBTI preferences with scales of other instruments, and empirical groupings of students on achievement and attitude characteristics, where MBTI was only one of a larger number of research variables. These analyses will be described as they occur.

B. Description of the Myers-Briggs Type Indicator

This section is concerned with three major issues:

First, a description of the theory of C. G. Jung on which the MBTI is based, including how the theory is used in making predictions.

Second, a description of the MBTI as an instrument, what it measures, how it is scored, and evidence for validity and reliability.

Third, a description of the ways MBTI data are presented in this report, how the types are positioned on type tables and how these tables are read and interpreted.

1. Jung's Theory of Psychological Types

The great Swiss physician-psychologist, C. G. Jung, developed one of the most comprehensive of current theories to explain human personality. Jung's theory of psychological types postulates that there are four basic mental processes (sensing, intuition, thinking and feeling), used by everyone, but not equally preferred and developed. Every type uses all four processes, but persons of each type are distinguished by their *relative* preferences for each of the four, and by the attitudes in which they use them.

In normal development, members of each type are motivated to use the processes they are disposed to prefer; through practice, they develop expertise in the activities for which their preferred processes are particularly useful. Skills and increased interests grow from "specializing" in preferred functions and lead to characteristic habits, attitudes and traits associated with the type. Types are not static but dynamic. In early life, the best development involves discovering one's natural predispositions and developing the preferred functions through meeting challenges with purposeful effort. Early life is a period of specialization, and failure to specialize was characterized by Jung as resulting in a primitive or undifferentiated personality. The theory allows for continued growth and development throughout life, as each type comes to greater appreciation of and command over functions which in early life were less interesting and less developed.

The dynamic and growing command of mental processes as an integral part of the theory is emphasized here, for two reasons. First, the word *type* connotes to many people a static rather than a dynamic system. The fact that Myers locates data for each type in a type table can seem to indicate that types are "boxed in." A more important reason for stressing the developmental dynamics of the theory is that young people entering the health professions are, in theory, at a stage where they are still gaining command of perception and judgment. Myers' research with medical and nursing students stemmed from her belief that the life-and-death decisions in the health professions require the best use of perception and judgment, both for the sake of the patient, and for the sense of adequacy in the professional. Her goal in using the MBTI in medical and nursing education was to find ways for students of all types to improve their command of perception and judgment as part of their professional training.

a. Perceptive Functions: Sensing and Intuition

Sensing (S) is the term used for perception of the observable by way of the senses. Intuition (N) is the term used for perception of meanings, relationships and possibilities by way of insight. Sensing types (S) use sensing and intuition but prefer, and therefore develop sensing. With good type development, the expertise in sensing can lead to a differentiated awareness of present experience, acute powers of observation, a memory for facts and detail, and a capacity for realism, for seeing the world as it is. Attitudes characteristically developed as a preference for sensing include a reliance on experience rather than on theory, a trust of the conventional and customary way of doing things, a preference for beginning with what is known and real, and moving systematically and step-by-step, tying each new fact to past experience and testing it for its relevance in practical use. To most sensing types, "real intelligence" is characterized as being sound, accurate and having common sense.

Predictions for sensing types were that they would be attracted to careers and settings where skillful application of well-learned knowledge is more important than developing new solutions, where working with tangibles is more important than using theory and insight, and where dealing with the immediate situation using conventional wisdom is more important than making bold new breakthroughs. Based on this reasoning, proportionately more sensing types were expected to be found giving direct patient care, working with tasks requiring high technical skill and precision, and residing in smaller communities.

Intuitive types (N) use sensing and intuition, but prefer and therefore develop intuition. With good type development, development of intuition can lead to insight into complexity, an ability to see abstract, symbolic and theoretical relationships, and a capacity to see future possibilities, often creative ones.

Attitudes characteristically developed as a result of a preference for intuition include a reliance on inspiration more than past experience, an interest in the new and untried, and a preference for learning new materials through an intuitive grasp of the meanings and relationships. To most intuitive types, "real" intelligence is shown by insight in grasping complexities, and flashes of creativity.

Predictions for intuitive types were that they would be attracted to careers and settings where finding the pattern in complex systems is more important than applying the details of well-learned knowledge, where creating new knowledge is more important than applying existing knowledge, where working with theory and insight is more important than dealing with tangibles, and where access to challenges for intellectual interests and new insights is more available than enjoyment of the pleasures of everyday events. Based on this reasoning, proportionately more intuitive types were expected to be practicing in fields requiring integration of highly complex systems or use of theory, in teaching and research, in settings at the forefront of new developments, and in larger communities, near universities and medical centers.

b. Judgment Functions: Thinking and Feeling

Thinking is the term used to define a logical decision-making process, aimed at an impersonal finding. Feeling is a term for a process of appreciation, making judgments in terms of a system of subjective, personal values. Both thinking and feeling are considered rational processes because they use reasoning to arrive at conclusions or decisions.

Thinking types (T) use both thinking and feeling but prefer to use thinking for making judgments. With good type development, expertise in thinking leads to powers of analysis and an ability to weigh facts objectively including consequences, unintended as well as intended. Attitudes typically developed from a preference for thinking include objectivity, impartiality, a sense of fairness and justice, and skill in applying logical analysis.

Predictions for thinking types were that they would be attracted to areas where tough-mindedness is needed and would find the technical skills, as in the science of health, more interesting than the interpersonal skills, as in the art of health care.

Feeling types (F) use thinking and feeling but prefer to reach judgments through feeling. With good type development, feeling leads to development of values and standards, and a knowledge of what matters most to themselves and other people. Attitudes typically resulting from a preference for feeling include an understanding of people and wish to affiliate with them, a desire for harmony, and a capacity for warmth, empathy and compassion.

Predictions for feeling types were that they would be attracted to areas where understanding and communication with people is needed, as in primary care, and would find the interpersonal skills, as in the art of health care more interesting than the technical skills, as in the science of health.

From even these sketchy descriptions, it is clear that health professionals need command of all four functions — sensing, for making good observations and taking complete histories; intuition, for developing diagnostic hypotheses from a variety of unrelated facts; thinking, for logical analyses of the alternatives, and for objectivity and firmness when this is required; and feeling, for empathy and nurturance, and for understanding the patient as a person. Types with different dominant functions find some of these activities compatible and interesting, while other activities, which require skills less developed in their type, demand more work and effort. The effects of the four functions, S, N, T and F are modified by the attitudes in which they are typically exercised.

c. Two Basic Orientations to Life: Extraversion and Introversion

Jung postulated two fundamentally different attitudes toward the world, which all humans share. In the *extraverted* attitude, attention flows out — is drawn out — to the objects and people of the environment. There is a desire to act on the environment, to affirm its importance and to increase it. In the *introverted* attitude, energy seems to flow from the object back to the subject; energy is abstracted from the environment and conserved by consolidating it within one's own position. The analogy has been made that extraverted energy penetrates the environment like radiant heating, while introverted energy is generated more like a heat pump.

Extraverts (E) go back and forth from extraverting to introverting, but prefer extraverting. With mature type development, extraverts typically create a life with action, social contacts, and a wide circle of acquaintanceships. Characteristics typical of those who prefer the extraverted attitude are sociability, outspokenness, ease of communication, awareness of and reliance on the environment for stimulation and guidance, and an action-oriented, often impulsive way of meeting new events. Predictions for extraverts were that they would prefer activities requiring frequent interactions, quick action, and communication, as in primary care and the surgeries. Group practice and teamwork were expected to be more attractive to extraverts than to introverts.

Introverts (I) are persons who go back and forth from introversion to extraversion, but who prefer and spend more time in the introverted attitude. Introverts typically create a life with time for contemplation, socializing with intimates and close friends. Characteristics typical of those who prefer the introverted attitude are a thoughtful contemplative detachment, interest in clear conceptualization of ideas, and a relative unawareness of changes in the outer situation, discounting their importance in any important decisions. Privacy and time to go into depth are important for introverts, who are postulated to have a greater capacity for sustained attention than extraverts. Predictions for introverts were that they would prefer activities requiring sustained attention, contemplation (such as research and teaching), and would prefer specialties where relatively less communication was required.

d. The Dominant and Auxiliary Functions

By definition in Jung's theory, one of the four functions, S, N, T or F is dominant in each type. Jung described eight types, four extraverted and four introverted. These are extraverts with sensing dominant, extraverts with intuition dominant, extraverts with thinking dominant and extraverts with feeling dominant, and comparable types for introverts. The dominant function provides direction and consistent focus to the personality. Jung's theory is constantly concerned with preventing one-sidedness. Therefore, a second preferred function, known as the auxiliary, provides balance in two ways. If the dominant function is perceptive (S or N), then the auxiliary provides balancing judgment (T or F). If the dominant is a judgment process (T or F), then the auxiliary provides the balance of a well-developed perceptive process (S or N).

The dominant and auxiliary provide a second kind of balance, to make sure each type has good development of both extraversion and introversion. By definition, each type uses the dominant function (S, N, T or F) in the preferred attitude (E or I). The dominant function of extraverts is used primarily in the extraverted attitude, and the auxiliary is introverted. The dominant function of introverts is used primarily in the introverted attitude, and the second-preferred auxiliary is extraverted. Important predictions stem from this arrangement. Extraverts typically show their best (dominant) function to the world, while introverts show their second best (auxiliary), saving the use of their best (dominant) for the important activities of the inner world, which only close associates may see. Introverts, therefore, are more likely to be underestimated. (A research question stemming from this theoretical point could be: "Are clinical performance ratings which show extraverts as superior to introverts actually justified by better performance by extraverts, or are introverts being underestimated because their excellence is less visible?").

e. Identifying the Dominant and Auxiliary in the MBTI

A fourth preference, Judgment (J) or Perception (P) is used in the MBTI to identify which of the two preferred processes is the dominant one.

Judging types (J) take both the perceptive and the judging attitudes, but prefer to deal with activities of the world around them mainly by means of their preferred judging process, thinking or feeling. A preference for the judging attitude leads to a desire for decisions, with a minimum of information-gathering. Judging types tend to prefer to organize and plan their lives, using their energies to control events more than in understanding them. When at their best, they are likely to be rated responsible, dependable and decisive.

Perceptive types (P) take both the perceptive and the judging attitudes, but prefer to deal with activities of the world around them by means of their preferred perceptive process, sensing or intuition. A preference for the perceptive attitude leads to an open, curious desire for understanding events with relatively little pressure to control them. When at their best, perceptive types are called receptive, understanding and flexible.

By definition, J and P refer to the process used for extraverting; thus, they point directly to the dominant function of extraverts and to the auxiliary function of introverts.

f. The Type Formula

For each of the 16 MBTI types, Jung's theory describes the attitude, the dominant and the auxiliary, as, for example, an "extraverted feeling type with intuition as auxiliary." The MBTI uses a four-letter formula to describe these relationships (in the example given, ENFJ).

It is important to understand that the four letters specify which pole of four postulated dichotomies are preferred, and the ways in which these preferences are interrelated. (ENFJ for example, if stated in full, would be a person who prefers the extraverted attitude, and shows this primarily through feeling judgments; balance is achieved through perception by way of intuition, which may be less visible, since it is used primarily in the introverted attitude.)

The letters of the type formula merely designate what a person states he prefers, when asked to choose between the two poles of each preference. To be a given type does not mean one cannot and does not use less preferred processes. However, people are expected to have less interest and expertise in activities requiring their less-preferred processes, and will be conscious of greater effort when required to use them.

It is important to keep in mind that MBTI types are preference types. Good type development assumes that a person knows what he prefers and has expended effort to develop excellence in his own preferred directions. There are wide individual differences in types. A selection committee, for instance, might use Jung's theory to make sure they were alert to the different varieties of excellence in each type, and the typical problems of the undeveloped in each type; these clinical judgments could be developed by training and observation. It would be a mistake, however, to assume that all applicants describing themselves as a given type were equal in their command of the excellence of the type.

g. Mature Type Development

Mature type development assumes (a) a knowledge of one's preferences, (b) a development of one's preferred functions to a level where they are trustworthy and reliable, (c) a respect for, and adequate development of less-preferred functions, (d) a good command of both perception and judgment, and appropriate use of each, (e) the ability to function effectively and comfortably in both the extraverted and introverted attitudes, and (f) a continuing growth and development in gaining command over all four functions and their uses.

2. Predictions from Jung's Theory

The research of this Monograph is primarily descriptive, but any research with the MBTI includes implicit expectations of type differences. Predictions relevant to understanding health professions are given below:

a. EI Predictions

(1) Extraverts will be attracted to fields and specialties with high levels of interpersonal contact, and/or requirements for rapid action and responsiveness to changes.

(2) Introverts will be attracted to fields and specialties requiring sustained attention, more time in solitary work or one-to-one interactions.

(3) Introverts will be found in greater numbers in fields requiring graduate and postgraduate training, and in academic settings.

b. SN Predictions

(1) Sensing types, who have a special interest in the immediate, practical details of events, will be especially attracted to fields requiring care and precision, consistency in following established practices, and skill in action rather than skill in words or symbols.

(2) To the extent that patient care is concerned with practical attention to day-to-day events and use of well-learned knowledge, sensing types will be attracted to direct patient care.

(3) Sensing types, who are more oriented to the present experience, more conservative, and often more funloving, will be attracted to smaller communities and to areas where they can find their own preferred kinds of recreation.

(4) Sensing types will average lower than intuitive types on written aptitude or competence measures, but will equal intuitive types when tested by actual performance.

(5) Intuitive types, with their interest in finding patterns in complex systems and in using creativity and imagination to see new possibilities, will be especially attracted to fields on the cutting edge of developments, and to activities with diagnostic or treatment challenges.

(6) Intuitive types will average higher scores on any measures of aptitude or competence using written tests, or requiring communication at an abstract or symbolic level.

(7) Intuitive types will be found in larger cities or settings permitting them to find intellectual challenges.

c. TF Predictions

(1) Thinking types will be attracted to activities requiring technical skill with equipment, (especially ST types), knowledge of the physical sciences (especially NT types), and to those aspects of patient care where tough-minded objectivity is an advantage.

(2) Feeling types will be attracted to occupations where the human component is important, and will be most attracted to activities which require directly caring for people (especially SF types) and understanding people (especially NF types).

(3) Feeling types will need less training in communication skills than thinking types (with E-F types easiest of all to teach).

d. JP Predictions

(1) Judging types will be attracted to occupations and settings where schedules, system, and order are important (especially S-J types).

(2) Judging types will more often be classified as "over-achievers" and will average slightly higher grades than would be predicted from their aptitude scores.

(3) Judging types will be seen as more dependable, responsible, than perceptive types, but less open to new information and less adaptable than perceptive types.

(4) Perceptive types will be attracted to situations requiring constant adaptability to changing demands.

(5) Perceptive types (especially the intuitives) will have the greatest interest of all types in independent study or independently following their own interests and hunches.

(6) Perceptive types will have somewhat higher aptitude scores than judging types, but will earn somewhat lower achievement scores than predicted from their aptitudes.

(7) Perceptive types will be rated higher in openness to new information, flexibility and adaptability, but lower in responsibility and dependability than judging types.

e. Combinations of Preferences

Predictions for specific combinations of preferences include:

ST: Practical and matter-of-fact. Like to give patient care by applying technical skills to daily tasks; by expert use of tools and equipment.

SF: Sympathetic and friendly. Like to give patient care through daily tasks aimed at nurturance and comfort.

NF: Enthusiastic and insightful. Good communications skills (especially ENF). Like to give patient care through psychological understanding.

NT: Logical and ingenious. Most scientific (especially INT types). Like to give patient care through application of science, programmatic planning.

SJ: Organized, dependable, conservative, tolerant of routine.

NP: Independent, spontaneous, demanding of constant challenge.

IN: Thoughtful, innovative, scholarly, interested in teaching and research.

EN: Active innovators, interested in bringing new possibilities into being.

IS: Practical and thoughtful, interested in realistically conceptualizing events; good at sustained observations (especially IS-P types).

ES: Skillful in action, interested in implementation and practical accomplishments.

3. Characteristics of Myers-Briggs Type Indicator (MBTI) as an Instrument

The unusual properties of the MBTI are dictated by the theory it serves. Jung's theory of psychological types is based on valuable differences predictably resulting from preference for — and development of — opposite kinds of perception (S and N), opposite kinds of judgment (T and F), and opposite ways of using the processes preferred (E and I). The theory postulates that each individual makes use of all these opposites, but not with equal liking, and hence not with equal frequency, and hence, in the long run, not with equal skill.

a. The Four MBTI Scales (or Indices)

The MBTI consists of four scales, shown in Figure 1 in the section "Four Preferences are Scored to Arrive at a Person's Type."

EI Preference between

Extraversion (E), which focuses interest upon the external world of action, people and objects, and Introversion (I), which focuses interest upon the inner world of concepts and ideas.

SN Preference between

Sensing (S), which is perception of the observable, by way of the five senses, and

Intuition (N), which is perception of meanings, relationships and possibilities by way of insight.

TF Preference between

Thinking (T), which judges and comes to conclusions in accord with impersonal analysis and logic, and

Feeling (F), which judges or comes to conclusions in accord with values and standards based on what is personally and subjectively important.

JP Preference between the

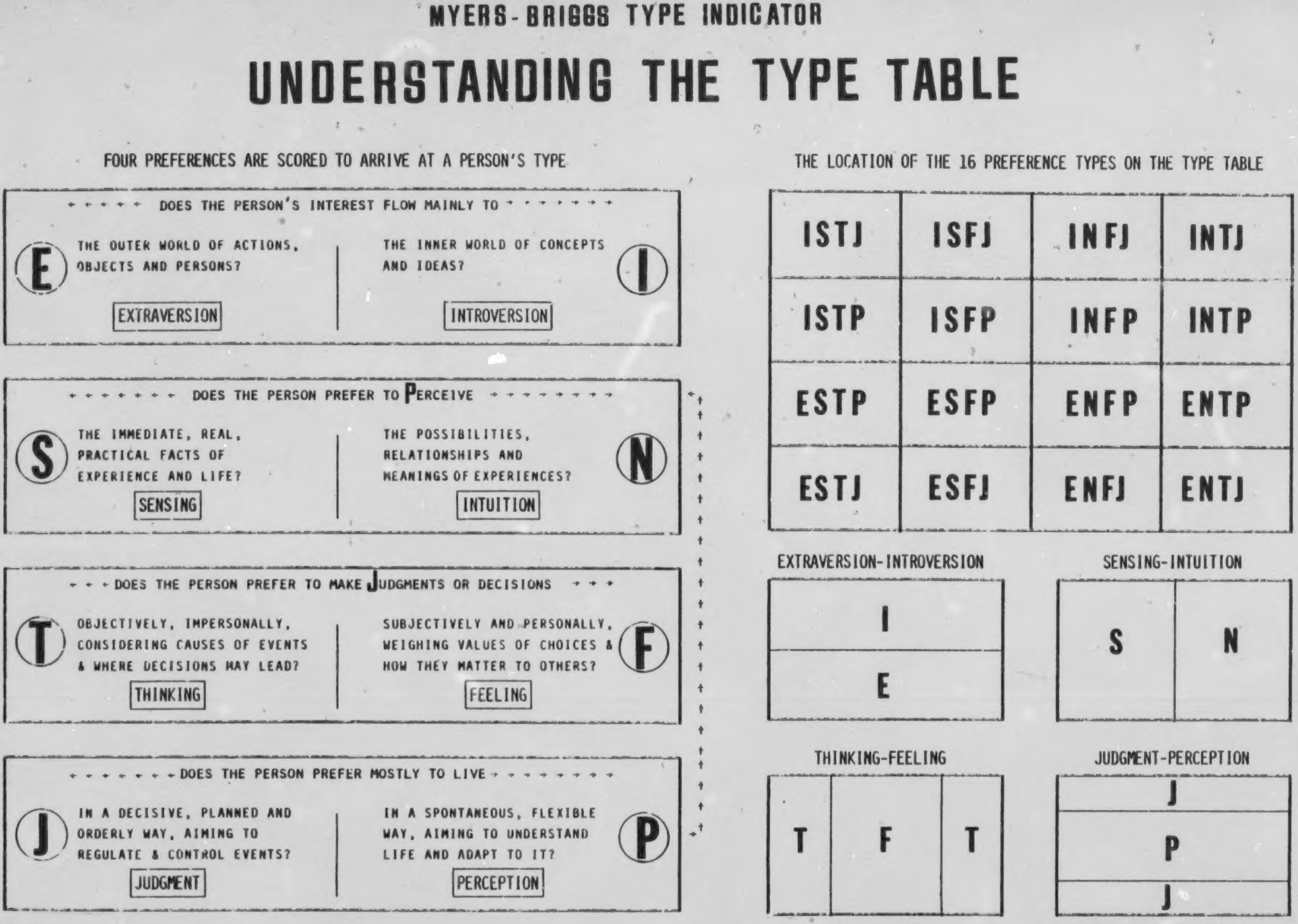
Judging Attitude (J), which deals with the outer world by means of the preferred judging process (T or F) and the

Perceptive Attitude (P), which deals with the outer world by means of the preferred perceptive process (S or N).

These preferences are all dichotomous by definition, since they concern the use of one mental process or another, in this way or that.

b. Forced Choice Questions

Since the goal of the MBTI was to determine *relative* preference for two important but opposite functions, the questions force this choice. All questions deal with the contrasting effects of the two poles of the same preference, E or I, S or N, T or F, J or P. No questions cut across a preference (E or T, S or F for example).



MYERS-BRIGGS TYPE INDICATOR

UNDERSTANDING THE TYPE TABLE

FOUR PREFERENCES ARE SCORED TO ARRIVE AT A PERSON'S TYPE

DOES THE PERSON'S INTEREST FLOW MAINLY TO

E THE OUTER WORLD OF ACTIONS, OBJECTS AND PERSONS? EXTRAVERSION	THE INNER WORLD OF CONCEPTS AND IDEAS? **I** INTROVERSION

DOES THE PERSON PREFER TO PERCEIVE

S THE IMMEDIATE, REAL, PRACTICAL FACTS OF EXPERIENCE AND LIFE? SENSING	THE POSSIBILITIES, RELATIONSHIPS AND MEANINGS OF EXPERIENCES? **N** INTUITION

DOES THE PERSON PREFER TO MAKE JUDGMENTS OR DECISIONS

T OBJECTIVELY, IMPERSONALLY, CONSIDERING CAUSES OF EVENTS & WHERE DECISIONS MAY LEAD? THINKING	SUBJECTIVELY AND PERSONALLY, WEIGHING VALUES OF CHOICES & HOW THEY MATTER TO OTHERS? **F** FEELING

DOES THE PERSON PREFER MOSTLY TO LIVE

J IN A DECISIVE, PLANNED AND ORDERLY WAY, AIMING TO REGULATE & CONTROL EVENTS? JUDGMENT	IN A SPONTANEOUS, FLEXIBLE WAY, AIMING TO UNDERSTAND LIFE AND ADAPT TO IT? **P** PERCEPTION

THE LOCATION OF THE 16 PREFERENCE TYPES ON THE TYPE TABLE

ISTJ	ISFJ	INFJ	INTJ
ISTP	ISFP	INFP	INTP
ESTP	ESFP	ENFP	ENTP
ESTJ	ESFJ	ENFJ	ENTJ

EXTRAVERSION-INTROVERSION

I
E

SENSING-INTUITION

S	N

THINKING-FEELING

T	F	T

JUDGMENT-PERCEPTION

J
P
J

Figure 1
Understanding the Type Table: Part I

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For each of the four indices (EI, SN, TF and JP) the Indicator has a group of questions designed to discover the *direction* of preference (E or I, S or N, T or F, J or P). On the assumption that people often go against their preferences when rising to a special occasion, but show their true preferences in the little events of everyday life, the items deal with the simple results of preferences. In Parts I and III item responses are phrases reflecting opposite ways of reacting to various situations of everyday life. In Part II, which is a series of word pairs, the person chooses that word of each pair which appeals to him more.

c. MBTI Scoring: Points, Preference Scores and Continuous Scores

Scoring the MBTI produces four "preference scores," one for each of the four indices, EI, SN, TF and JP. The score for each index is obtained by summing the choices for each pole, determining the direction of preference from the pole with the larger number of points, and determining the strength of preference by applying a tie-breaking formula to the difference in points. The *preference score* for each index consists of a letter showing *direction* of preference followed by a number showing reported *strength* of preference. For example, I 9, N 27, F 15, J 35, summarized as INFJ.

Because the theory assumes that a preference for one pole of an index leads to development of attitudes, qualities and habits of mind which are qualitatively different from those developed by people choosing the opposite pole, most MBTI data are presented in terms of dichotomies, focusing on the letters showing direction of preference, rather than the numbers showing strengths of preference. For those times where the investigator assumes the distribution of preference scores is continuous and linear (an assumption which should be checked), there is a convention for converting preference scores to *continuous scores:* The midpoint is set at 100, and the preference score is subtracted from 100 for E, S, T and J, or added to 100 for I, N, F and P. (For example, E 15 has a continuous score of 85, while I 15 has a continuous score of 115.) Continuous scores are often used to compare the four MBTI indices with scales of personality tests. Such correlations appear in the section on validity.

d. Type Description

There are sixteen possible combinations of preferences, each resulting in a different type. The type structure is defined by the four letters. Characteristics of the type grow out of its separate preferences and the postulated interactions between them — Figure 2 shows their effects. Myers has written separate descriptions for each of the 16 types. Descriptions are stated primarily in positive terms, showing each type at its highest

	SENSING TYPES		INTUITIVES	
	WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING
INTROVERTS JUDGING	**ISTJ** Serious, quiet, earn success by concentration and thoroughness. Practical, orderly, matter-of-fact, logical, realistic and dependable. See to it that everything is well organized. Take responsibility. Make up their own minds as to what should be accomplished and work toward it steadily, regardless of protests or distractions. Live their outer life more with thinking, inner more with sensing.	**ISFJ** Quiet, friendly, responsible and conscientious. Work devotedly to meet their obligations and serve their friends and school. Thorough, painstaking, accurate. May need time to master technical subjects, as their interests are not often technical. Patient with detail and routine. Loyal, considerate, concerned with how other people feel. Live their outer life more with feeling, inner more with sensing.	**INFJ** Succeed by perseverance, originality and desire to do whatever is needed or wanted. Put their best efforts into their work. Quietly forceful, conscientious, concerned for others. Respected for their firm principles. Likely to be honored and followed for their clear convictions as to how best to serve the common good. Live their outer life more with feeling, inner more with intuition.	**INTJ** Have original minds and great drive which they use only for their own purposes. In fields that appeal to them they have a fine power to organize a job and carry it through with or without help. Skeptical, critical, independent, determined, often stubborn. Must learn to yield less important points in order to win the most important. Live their outer life more with thinking, inner more with intuition.
INTROVERTS PERCEPTIVE	**ISTP** Cool onlookers, quiet, reserved, observing and analyzing life with detached curiosity and unexpected flashes of original humor. Usually interested in impersonal principles, cause and effect, or how and why mechanical things work. Exert themselves no more than they think necessary, because any waste of energy would be inefficient. Live their outer life more with sensing, inner more with thinking.	**ISFP** Retiring, quietly friendly, sensitive, modest about their abilities. Shun disagreements, do not force their opinions or values on others. Usually do not care to lead but are often loyal followers. May be rather relaxed about assignments or getting things done, because they enjoy the present moment and do not want to spoil it by undue haste or exertion. Live their outer life more with sensing, inner more with feeling.	**INFP** Full of enthusiasms and loyalties, but seldom talk of these until they know you well. Care about learning, ideas, language, and independent projects of their own. Apt to be on yearbook staff, perhaps as editor. Tend to undertake too much, then somehow get it done. Friendly, but often too absorbed in what they are doing to be sociable or notice much. Live their outer life more with intuition, inner more with feeling.	**INTP** Quiet, reserved, brilliant in exams, especially in theoretical or scientific subjects. Logical to the point of hair-splitting. Interested mainly in ideas, with little liking for parties or small talk. Tend to have very sharply defined interests. Need to choose careers where some strong interest of theirs can be used and useful. Live their outer life more with intuition, inner more with thinking.
EXTRAVERTS PERCEPTIVE	**ESTP** Matter-of-fact, do not worry or hurry, enjoy whatever comes along. Tend to like mechanical things and sports, with friends on the side. May be a bit blunt or insensitive. Can do math or science when they see the need. Dislike long explanations. Are best with real things that can be worked, handled, taken apart or put back together. Live their outer life more with sensing, inner more with thinking.	**ESFP** Outgoing, easygoing, accepting, friendly, fond of a good time. Like sports and making things. Know what's going on and join in eagerly. Find remembering facts easier than mastering theories. Are best in situations that need sound common sense and practical ability with people as well as with things. Live their outer life more with sensing, inner more with feeling.	**ENFP** Warmly enthusiastic, high-spirited, ingenious, imaginative. Able to do almost anything that interests them. Quick with a solution for any difficulty and ready to help anyone with a problem. Often rely on their ability to improvise instead of preparing in advance. Can always find compelling reasons for whatever they want. Live their outer life more with intuition, inner more with feeling.	**ENTP** Quick, ingenious, good at many things. Stimulating company, alert and outspoken, argue for fun on either side of a question. Resourceful in solving new and challenging problems, but may neglect routine assignments. Turn to one new interest after another. Can always find logical reasons for whatever they want. Live their outer life more with intuition, inner more with thinking.
EXTRAVERTS JUDGING	**ESTJ** Practical realists, matter-of-fact, with a natural head for business or mechanics. Not interested in subjects they see no use for, but can apply themselves when necessary. Like to organize and run activities. Tend to run things well, especially if they remember to consider other people's feelings and points of view when making their decisions. Live their outer life more with thinking, inner more with sensing.	**ESFJ** Warm-hearted, talkative, popular, conscientious, born cooperators, active committee members. Always doing something nice for someone. Work best with plenty of encouragement and praise. Little interest in abstract thinking or technical subjects. Main interest is in things that directly and visibly affect people's lives. Live their outer life more with feeling, inner more with sensing.	**ENFJ** Responsive and responsible. Feel real concern for what others think and want, and try to handle things with due regard for other people's feelings. Can present a proposal or lead a group discussion with ease and tact. Sociable, popular, active in school affairs, but put time enough on their studies to do good work. Live their outer life more with feeling, inner more with intuition.	**ENTJ** Hearty, frank, able in studies, leaders in activities. Usually good in anything that requires reasoning and intelligent talk, such as public speaking. Are well-informed and keep adding to their fund of knowledge. May sometimes be more positive and confident than their experience in an area warrants. Live their outer life more with thinking, inner more with intuition.

Figure 2

Effects of Combinations of All Four Preferences in Young People

Taken from Myers, I. B. *Introduction to Type, 2nd Ed.* Gainesville, Florida: Center for Applications of Psychological Type, 1976.

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development; each description ends with a statement of difficulties the type may encounter if the auxiliary is not developed, or if the type becomes too one-sided. These descriptions are an important part of the feedback when reporting results to individuals. A great advantage of the MBTI is that it is concerned with valuable differences in normal people, and MBTI results can be shared with those who take it. Myers makes a particular effort in her writings to stress the ways in which opposite types can understand and appreciate each other in an atmosphere of mutual respect. Descriptions of all the types, suggestions for type development and some work aspects of type preferences are given in *Introduction to Type*, a booklet often used to supplement MBTI reports (Myers, 1976). Abbreviated descriptions of each type in young people are reproduced from *Introduction to Type* in Figure 2 to help the reader visualize type differences. It is instructive to compare types which differ in all four letters.

e. Validity

Since the MBTI is based on a theory, the most appropriate validity measures are concerned with validation of the constructs in Jung's theory of type. A sizeable body of information on the validity of the MBTI has been built up over the years, and is reported in the *Manual* and in other research described in the *MBTI Bibliography*, which is part of this Contract report.

Table 2 shows the correlations of continuous scores of the four MBTI preferences with scales from other personality instruments used with medical students. The table gives the direction of the significant correlations in type letters so that the reader can use the table not only to assess concurrent and construct validity, but also to gain a better understanding of qualities associated with each preference.

The data presented in this report are relevant to the issue of construct validity and are interpreted in relation to theoretical expectations. The Myers Longitudinal Medical Sample is one of the major research efforts concerned with predictive validity of the MBTI, since the research question concerned the selection of specialties 12 or more years after taking the MBTI as freshmen in medical school.

f. Reliability

Reliability estimates typically are concerned with the consistency of scores on the instrument under study. For the MBTI reliability is also assumed to be related to "the potent but as yet unmeasurable variable of 'type development' -- i.e., the extent to which a person actually has developed the processes and attitudes which he prefers" (*Manual*, page 19) and is able to

Table 2
Product-Moment Correlations of MBTI Continuous Scores and Other Personality Tests in Medical Student Samples

SCALE	GROUP	N	EI	SN	TF	JP	STRONGEST RELATIONSHIP
16 PERSONALITY FACTOR TEST							
Primary Factors							
A. Outgoing *(Affectothymia)*	A	66	-18	-24	01	-22	- - - -
	B	122	-43***	-07	-05	-13	E - - -
	C	149	-22**	-01	31***	-02	E - F -
	D	484	-40***	-08	16***	-18***	E - F J
	E	645	-35***	-01	19***	-07	E - F -
B. Intelligent	A	66	04	35**	22	19	- N - -
	B	122	01	25**	-02	-05	- N - -
	C	149	-01	10	-07	01	- - - -
	D	484	05	14**	08	03	- N - -
	E	645	00	10*	-01	02	- - - -
C. Stable, faces reality *(High Ego Strength)*	A	66	-30*	-22	-12	-14	- - - -
	B	122	-23**	-17	-18*	-11	E - - -
	C	149	-32***	-16*	00	-12	E - - -
	D	484	-28***	-11*	-08	-08	E - - -
	E	645	-31***	02	-06	09*	E - - -
E. Assertive *(Dominance)*	A	66	-18	-18	-18	22	- - - -
	B	122	-08	25**	-06	32***	- N - P
	C	149	-12	25**	-06	10	- N - -
	D	484	-21***	23***	-06	20***	E N - P
	E	645	-32***	29***	-18***	18***	E N F P
F. Happy-Go-Lucky *(Surgency)*	A	66	-30*	09	03	10	- - - -
	B	122	-36***	33***	28***	34***	E N F P
	C	149	-50***	03	17*	13	E - - -
	D	484	-56***	12*	20***	21***	E - F P
	E	645	-59***	13***	05	14***	E N - P
G. Proper, Rule-Bound *(Stronger Superego)*	A	66	-11	-39***	-22	-54***	- S - J
	B	122	-12	-44***	-24**	-50***	- S T J
	C	149	-22**	-32***	-22**	-57***	E S T J
	D	484	-17***	-36***	-11*	-48***	E S - J
	E	645	-11*	-38***	-06	-55***	- S - J
H. Venturesome *(Parmia)*	A	66	-53***	03	-09	01	E - - -
	B	122	-67***	09	-09	01	E - - -
	C	149	-63***	03	00	-14	E - - -
	D	484	-64***	13**	03	04	E N - -
	E	645	-76***	13***	-03	00	E N - -
I. Tender-Minded *(Premsia)*	A	66	05	17	29*	-01	- - - -
	B	122	-04	25**	30***	08	- N F -
	C	149	20*	31***	36***	33***	- N F P
	D	484	06	31***	37***	25***	- N F P
	E	645	-01	33***	25***	19***	- N F P
L. Suspicious *(Protension)*	A	66	01	12	-08	09	- - - -
	B	122	19*	09	04	24**	- - - P
	C	149	17*	01	-19*	00	- - - -
	D	484	13**	03	06	09	I - - -
	E	645	09*	04	-02	09*	- - - P
M. Imaginative *(Autia)*	A	66	06	31*	18	21	- - - -
	B	122	09	30***	19*	20**	- N - P
	C	149	25**	34***	17*	40***	I N - P
	D	484	26***	37***	07	21***	I N - P
	E	645	02	36***	-03	15***	- N - P
N. Shrewd, Worldly *(Shrewdness)*	A	66	22	-16	-06	-31*	- - - -
	B	122	01	-31***	-29**	-32***	- S T J
	C	149	-03	-11	-25**	-28***	- - T J
	D	484	-09	-10*	-19***	-13**	- S T -
	E	645	14***	-27***	-07	24***	I S - P
O. Apprehensive *(Guilt Proneness)*	A	66	27*	22	11	21	- - - -
	B	122	33***	-06	22*	06	I - - -
	C	149	25**	-10	06	02	I - - -
	D	484	20***	-11*	12*	-10*	I - - -
	E	645	23***	-07	16***	-03	I - F -

Table 2 continued

SCALE	GROUP	N	EI	SN	TF	JP	STRONGEST RELATIONSHIP
16 PERSONALITY FACTOR TEST							
Primary Factors *(Continued)*							
Q_1 Experimenting	A	66	-02	32**	-23	22	- N - -
(Radicalism)	B	122	00	25**	-40***	12	- N T -
	C	149	-13	28***	-10	13	- N - -
	D	484	09	31***	-15***	15***	- N T P
	E	645	02	27***	-25***	21***	- N T P
Q_2 Self-Sufficient	A	66	41***	02	-03	12	I - - -
(Self-Sufficiency)	B	122	52***	00	00	12	I - - -
	C	149	44***	22**	-03	21**	I N - P
	D	484	41***	11*	-06	12*	I - - -
	E	645	41***	14***	-11*	12**	I N - P
Q_3 Controlled	A	66	-05	-43***	-21	-41***	- S - J
(High Self-Concept)	B	122	-11	-19*	-19*	-36***	- - - J
	C	149	-01	-16*	-24**	-41***	- - T J
	D	484	-10*	-15***	-17***	-27***	- S T J
	E	645	-07	-29***	-17***	-40***	- S T J
Q_4 Tense	A	66	32**	26*	17	21	I - - -
(High Ergic Tension)	B	122	22*	02	30***	06	- - F -
	C	149	28***	-03	04	02	I - - -
	D	484	23***	-03	14**	-02	I - F -
	E	645	26***	-02	09*	00	I - - -
Second-Order Traits							
Extraversion	A	66	-51***	03	-05	00	E - - -
(Exvia)	D	484	-70***	13**	12*	10*	E N - -
	E	645	-74***	12**	03	05	E N - -
Anxiety	A	66	35**	23	16	17	I - - -
(High Anxiety)	D	484	35***	-01	15***	04	I - F -
	E	645	34***	-04	14***	06	I - F -
Alert Poise	A	66	-18	13	-17	23	- - - -
(Cortertia)	D	484	-17***	-21***	-34***	-08	E S T -
	E	645	-30***	-06	-28***	01	E - T -
Independence	A	66	-10	33**	-12	32**	- N - P
	D	484	29***	45***	-10*	36***	I N - P
	E	645	-10*	46***	-23***	35***	- N T P
Criterion Predictions							
Neurotic Trend	A	66	37**	16	22	12	I - - -
(More Neurotic Trend)	D	484	44***	-01	15***	-04	I - F -
	E	645	48***	-04	18***	00	I - F -
Leadership	A	66	-44***	-35**	-26*	-37**	E S - J
(More Leadership Potential)	D	484	-54***	-09	-13**	-15***	E - T J
	E	645	-58***	-15***	-16***	-26***	E S T J
Creativity	A	66	12	50***	19	39***	- N - P
(Creative Personality)	D	484	43***	37***	02	25***	I N - P
	E	645	16***	41***	-09*	25***	I N - P
OMNIBUS PERSONALITY INVENTORY							
TI Thinking Introversion	D	484	-10*	53***	10*	11*	E N - -
(Academic Interests)	E	648	-06	59***	04	12**	- N - P
TO Theoretical Orientation	D	484	05	41***	-16***	07	- N T -
(Theoretical, logical)	E	648	-04	49***	-15***	10*	- N T -
Es Estheticism	D	484	-05	46***	29***	21***	- N F P
(Artistic sensitivity)	E	648	-11*	48***	22***	17***	- N F P
Co Complexity	D	484	03	60***	13**	57***	- N F P
(Experimental, flexible)	E	648	-08	62***	12**	53***	- N F P
Au Autonomy	D	484	11*	48***	09	37***	- N - P
(Liberal, needs independence)	E	648	08	47***	01	33***	- N - P
RO Religious Orientation	D	484	16***	20***	-15***	26***	I N T P
(Skeptical, reject orthodoxy)	E	648	09*	19***	-15***	25***	- N T P

Table 2 continued

SCALE	GROUP	N	EI	SN	TF	JP	STRONGEST RELATIONSHIP
OMNIBUS PERSONALITY INVENTORY							
(Continued)							
SE Social Extraversion	D	484	-75***	10*	06	-02	E - - -
(Like being with people)	E	648	-77***	07	01	-02	E - - -
IE Impulse Expression	D	484	-08	33***	07	42***	- N - P
(Impulsive, imaginative)	E	648	-20***	29***	-06	34***	E N - P
PI Personal Integration	D	484	-38***	-10*	-08	-15***	E - - J
(Not alienated or disturbed)	E	648	-37***	-05	-09*	-16***	E - - J
AL Anxiety Level	D	484	-20***	-07	-19***	-06	E - T -
(Denial of anxiety or worry)	E	648	-23***	-02	-19***	-02	E - T -
Am Altruism	D	484	-44***	21***	25***	-06	E N F -
(Affiliative, care for others)	E	648	-39***	27***	29***	01	E N F -
PO Practical Outlook	D	484	-06	-67***	-21***	-41***	- S T J
(Likes applied, concrete)	E	648	-03	-64***	-12**	-32***	- S T J
MF Masculinity-Femininity	D	484	10*	-31***	-35***	-12*	- S T -
(Masculine, less social)	E	648	15***	-32***	-36***	-11*	I S T -
RB Response bias	D	484	-26***	00	-11*	-30***	E - - J
(Good impression)	E	648	-26***	06	-09*	-32***	E - - J
IDC Intellectual Disposition	D	484	-03	-65***	-11*	-32***	- S - J
(Learning is for practical use)	E	648	07	-65***	-04	-27***	- S - J
OPINION, ATTITUDE AND INTEREST SURVEY							
Interest Scales							
Business	D	484	-34***	-36***	-05	-21***	E S - J
	E	658	-30***	-42***	-05	-20***	E S - J
	F	46	00	-29*	-04	-19	- - - -
Humanities	D	484	06	30***	14**	20***	- N F P
	E	658	01	35***	04	19**	- N - P
	F	46	09	36*	07	41**	- - - P
Social Sciences	D	484	-49***	26***	15**	10*	E N F -
	E	658	-53***	26***	05	13***	E N - P
	F	46	-55***	03	-01	32*	E - - -
Physical Sciences	D	484	48***	-04	-25***	06	I - T -
	E	658	49***	-04	-21***	05	I - T -
	F	46	25	13	-25	02	- - - -
Biological Sciences	D	484	05	-18***	-02	-28***	- S - J
	E	658	11*	-18***	08	-34***	- S - J
	F	46	20	-04	02	-41**	- - - J
Opinion and Attitude Scales							
Achiever Personality	D	484	17***	03	05	-25***	I - - J
	E	658	14***	-02	04	-36***	I - - J
	F	46	17	12	21	-28*	- - - -
Intellectual Quality	D	484	18***	35***	05	30***	I N - P
	E	658	20***	27***	-06	27***	I N - P
	F	46	03	33*	-04	46***	- - - P
Creative Personality	D	484	-22***	43***	00	33***	E N - P
	E	658	-27***	46***	-08	32***	E N - P
	F	46	-27	33*	10	36*	- - - -
Social Adjustment	D	484	-44***	-12*	14**	-13**	E - F J
	E	658	-37***	-15***	23***	-13***	E S F J
	F	46	-43**	06	24	-03	E - - -
Emotional Adjustment	D	484	-47***	01	-18***	-12*	E - T -
	E	658	-47***	01	-15***	-12**	E - T J
	F	46	-54***	-04	-20	-24	E - - -
Masculine Orientation	D	484	03	-09	-35***	09	- - T -
	E	658	04	-03	-33***	02	- - T -
	F	46	09	-13	-56***	-15	- - T -
Response Style							
Set for True	D	484	06	-14**	01	-10*	- S - -
	E	658	08	-12**	02	-05	- S - -
	F	46	08	19	-11	-11	- - - -
Infrequent Response	D	484	32***	05	-08	12*	I - - -
	E	658	25***	08	-05	14***	I - - P
	F	46	21	06	-01	-14	- - - -
Social Undesirability	D	484	23***	-02	02	17***	I - - P
	E	658	26***	-03	01	21***	I - - P
	F	46	-01	04	-14	45**	- - - P

Table 2 concluded

SCALE	GROUP	N	EI	SN	TF	JP	STRONGEST RELATIONSHIP
OTHER INSTRUMENTS							
Allport-Vernon-Lindzey Study of Values							
Theoretical	F	65	09	-16	-42***	-13	- - - -
Economic	F	65	08	-58***	-39**	-54***	- S T J
Esthetic	F	65	-13	50***	10	45***	- N - P
Social	F	65	00	23	33**	26*	- - F -
Political	F	65	-04	-30*	-19	-06	- - - -
Religious	F	65	02	15	38**	-02	- - F -
Rokeach Dogmatism Scale	F	68	28*	-32**	00	-25*	- S - -
Watson-Glazer Critical Thinking Appraisal							
Inference	F	48	06	04	-11	32*	- - - -
Recognition of assumptions	F	48	-09	07	14	09	- - - -
Deduction	F	48	-25	24	18	40	- - - P
Interpretation	F	48	08	26	08	28	- - - -
Evaluation of arguments	F	48	-03	05	-01	13	- - - -
Total test	F	48	-09	22	12	35*	- - - -
Cancer Attitude Survey							
Patient's psychological resources	F	76	-17	24*	23*	27*	- - - -
Early diagnosis, aggressive treatment	F	76	15	-18	-19	-21	- - - -
Immortality	F	76	-05	09	43***	13	- - F -
Medical Preference Inventory *(Preference for primary care)*	F	76	-33**	-08	-07	11	E - - -

Notes: Decimals omitted

The letters A-F refer to the following medical samples:

A—66 University of Florida medical students (Richard K. Gordon & Mary H. McCaulley);
B—122 University of New Mexico Medical School applicants (Gerald D. Otis);
C—139 University of New Mexico Medical Students (Gerald D. Otis);
D—484 students from the classes of 1967-68-69 at The Ohio State University College of Medicine (John S. Camiscioni);
E—645 students from the classes of 1970-71-72 at The Ohio State University College of Medicine (John S. Camiscioni);
F—includes samples from one class (N 46) or two classes (N 76) from the Medical College of Ohio (Harold B. Haley & Rosalia Paiva).

For all tables in this report, * $p < .05$, ** $p < .01$ and *** $p < .001$. Significant relationships show the direction of preferences significant at $p < .01$ or $p < .001$.

report them. Myers' hypothesis is that samples assumed to have reached higher levels of type development will have higher internal consistency reliabilities. The TF scale is particularly likely to be low in underdeveloped samples. Table 3 shows internal consistency levels in a variety of samples from younger to older groups with differing levels of achievement.

Since Jung's theory is concerned with dichotomies, the reliability of the letter classifications (E or I, S or N, T or F, J or P) is reported in Table 4, showing the proportion of agreement of the letters in subjects in different samples. Agreement is always significantly higher than the 6.25% expected from chance alone. People who differ on retest usually do so on 1 or 2 letters, rarely 3 and almost never on all 4. Studies remain to be done in which reliabilities are computed separately for persons originally clear in their preferences, and for those with indeterminate (low) scores. In teaching counselors to use the MBTI for individual guidance much time is spent showing how to help people with inconclusive scores discover their true preferences. The assumption is that there *are* true preferences which only the person can identify, and that the MBTI reports are a first step, not a final answer, in identifying these.

g. Independence of the Scales

Myers reports in the *Manual*, and others have found, that SN and JP tend to be correlated, and in some samples SN and TF have low but significant correlations. Otherwise, the scales are independent. Table 5 shows intercorrelations of the scales for medical student samples.

h. Sex Differences on the TF Scale

The only MBTI scale requiring separate scoring keys for males and females is TF. Myers estimates that females have a preference for feeling in a ratio of 2:1 or 3:1, while males have a preference for thinking in a ratio of about 3:2. The characteristic toughness, analytical objectivity and coolness of people who prefer thinking is often related to the stereotype of masculinity in American culture, and the characteristic concern of feeling types for the human values, with femininity. It is important to note, therefore, that one normally finds sizeable populations of feeling types in male samples and of thinking types in female samples from high school through college and graduate school. The changes in attitudes toward sex-roles in the 1960's appear, however, to have had some impact on people's reports of preference for thinking and feeling, and samples of the 1970's show more feeling types than Myers found in the development of the MBTI. In the validation of Form G of the MBTI to be published in

Table 3
Internal Consistency Reliability Estimates of MBTI Continuous Scores

Description of Sample	Sex	N	Measure	EI	SN	TF	JP
JUNIOR HIGH SCHOOL							
7th grade underachievers[a] (average I.Q.)	M	44	Split-half	.60	.60	.57	.62
	F	32	Split-half	.60	.59	.19	.81
7th grade overachievers[a] (I.Q. bright normal)	M	100	Split-half	.82	.75	.59	.84
	F	100	Split-half	.85	.73	.68	.85
8th grade underachievers[b] (I.Q. over 130)	M	34	Split-half	.80	.75	.44	.71
7th - 9th gifted[b]	M	34	Split-half	.85	.84	.81	.82
	F	26	Split-half	.81	.76	.84	.75
HIGH SCHOOL							
12th grade: General course[b]	M	100	Split-half	.77	.70	.60	.79
12th grade: College prep.[b]	M	100	Split-half	.79	.84	.76	.87
	F	100	Split-half	.82	.80	.77	.88
High school students[c]	M	395	Alpha	.78	.77	.64	.78
	F	400	Alpha	.83	.74	.70	.81
Gifted seniors[b]	F	37	Split-half	.87	.85	.84	.94
National Merit Finalists[b]	M	100	Split-half	.85	.86	.82	.89
COLLEGE							
Amherst[a]	M	126	Split-half	.82	.85	.80	.87
Brown[b]	M	100	Split-half	.81	.87	.86	.80
Emory[d]	M	99	Split-half	.81	.85	.78	.82
	F	100	Split-half	.81	.85	.69	.82
Long Island University[c]	M	300	Alpha	.76	.75	.74	.84
	F	184	Alpha	.78	.80	.71	.81
Pembroke[b]	F	100	Split-half	.82	.87	.83	.84
Wesleyan[a]	M	56	Split-half	.88	.90	.77	.85
Pre-service teachers[e]	-	117	Split-half	.71	.81	.68	.80
TEACHERS							
Inservice teachers[e]	-	113	Split-half	.63	.82	.67	.83
MEDICAL SCHOOL							
New Mexico[a]	-	91	Split-half	.86	.88	.80	.88

[a] Data supplied to Isabel Briggs Myers and made available by her.
[b] Myers, I. B. Manual: The Myers-Briggs Type Indicator, 1962.
[c] Stricker and Ross, 1963.
[d] Webb, 1964.
[e] Hoffman, 1974

Table 4
Test-Retest Reliabilities of MBTI Continuous Scores and Type Categories

CONTINUOUS SCORES

Sample	N	Interval	EI	SN	TF	JP
7th grade students[a]	77	12 months	.73	.69	.60	.69
Amherst - class of '63[a]	126	14-17 months	.75	.69	.60	.74
Wesleyan - class of '63[a]	56	8 months	.82	.83	.78	.70
Univ. of New Mexico Medical[b] Classes '70-'73	91	9-21 months	.78	.73	.67	.64
Howard University Undergraduates[c]						
Males	146	2 months	.80	.69	.73	.70
Females	287	2 months	.83	.78	.82	.82

TYPE CATEGORIES

Sample	N	Test-Retest Interval	% of Agreement in Each MBTI Category				Percent of Categories Remaining the Same				
			EI	SN	TF	JP	All	3	2	1	0
7th grade students[a]	77	12 mos	75	74	73	79	39%				
Amherst - class of '63	126	14-17 mos	76	85	75	76	37%	44%	16%	4%	0%
Wesleyan - class of '63[a]	56	8 mos	84	88	79	75	47%	39%	14%	2%	0%
Univ. of New Mexico Medical[b] Classes of '70-'73	91	9-21 mos	80	81	77	72	42%	33%	20%	4%	1%
Auburn University[d]	329	18 mos	62	57	61	66	31%	39%	22%	7%	0%
Howard University[c]	433	2 mos	Mean agreement 85%				53%	35%	10%	2%	0%
Elementary Teachers[e]	94	6 yrs	83	89	90	90	61%				

[a] Isabel Briggs Myers [b]Gerald Otis [c]Levy et al., 1972 [d]Stalcup, 1967 [e]Wright, 1966

Table 5
Intercorrelations of Continuous Scores for MBTI Preferences in Medical Student Samples

SAMPLE	N	EI:SN	EI:TF	EI:JP	SN:TF	SN:JP	TF:JP
Myers Longitudinal Medical Study Isabel Briggs Myers	5355	.10	-.13	.08	-.05	.21	.07
University of Florida - Applicants M. H. McCaulley	342	-.03	-.06	.10	.19	.40	.34
University of Florida - Students M. H. McCaulley	66	.04	-.09	.06	.24	.46	.26
University of New Mexico - Applicants G. D. Otis	122	.05	.03	.12	.23	.32	.16
University of New Mexico - Students G. D. Otis	149	.07	.13	.12	.25	.42	.34
Medical College of Ohio - Students H. Haley & R. Paiva	76	-.15	-.17	-.08	.41	.41	.26
Ohio State University - Students '67-69 J. Camiscioni	484	.02	-.12	.06	.22	.45	.17
Ohio State University - Students '70-72	660	-.04	-.04	-.00	.15	.42	.14

1977, Myers conducted new item analyses for the TF scale. Using the same rules as originally used for Form F, she reweighted items, and arrived at similar proportions of thinking and feeling types as in the original Form F samples. On the basis of these findings, it appears possible that many data reported in this monograph may somewhat overstate the number of feeling types (compared to what those numbers would be if the MBTI's had been scored with the 1977 weights which reflect the current popularity of items). Our data may overstate the number of feeling types and understate the thinking types. However, the relative position of professions and specialties comparisons are made across groups will remain the same. Even with the revised weights, however, we would expect large numbers of feeling types in health professions, because feeling types are attracted to careers where they can help people.

4. Methods of Presenting MBTI Data

The preceding sections have already demonstrated how correlations are used to show relationships of the MBTI scales, EI, SN, TF and JP, with other scales. This section is concerned with describing how data are presented for the 16 types and the standard type groupings.

a. The Type Table

Since the preferences are assumed to be dichotomies, and since in each type the preferences are postulated to interact in specific ways, the appropriate method of presenting MBTI data is the *type table*. Myers locates the types in a standard order, which appears on Figure 1, *Understanding the Type Table*, in the section entitled "The Location of the 16 Preference Types on the Type Table." There are groupings of types which are also of interest (i.e., extraverts or introverts, IN's or ES's, etc.) and for ease of comparison across studies, the Center for Applications of Psychological Types developed a table with these commonly-used groupings listed to the right of the 16 types.

As an example for understanding type tables, Table 6 shows the distributions of the Myers Longitudinal Medical Sample (5355), in comparison with the distribution of the females (298) in the same sample.

To make type frequencies more visible, the Symbol ▯ is used for 1% of the sample. It is immediately apparent that the total sample has a more even distribution of types than the female sample. (Persons new to the MBTI often assume that types are evenly distributed and expect 6.25% of a population to fall in each type. Over a large number of population samples, the best estimate of the distribution of types in the population is that

Table 6
Comparison of Total Distribution and Females in Myers Longitudinal Medical Study

Myers-Briggs Type Indicator **Type Table**

MYERS LONGITUDINAL MEDICAL STUDY

TOTAL SAMPLE OF MEDICAL STUDENTS

N = 5355

SENSING TYPES		INTUITIVE TYPES		
with THINKING	with FEELING	with FEELING	with THINKING	
ISTJ N = 321 % = 5.99 ▮▮▮▮▮▮	ISFJ N = 246 % = 4,59 ▮▮▮▮▮	INFJ N = 209 % = 3.90 ▮▮▮▮	INTJ N = 339 % = 6.33 ▮▮▮▮▮▮	JUDGING INTROVERTS
ISTP N = 311 % = 5.81 ▮▮▮▮▮▮	ISFP N = 266 % = 4.97 ▮▮▮▮▮	INFP N = 389 % = 7.26 ▮▮▮▮▮▮▮	INTP N = 523 % = 9.77 ▮▮▮▮▮▮▮▮▮▮	PERCEPTIVE
ESTP N = 278 % = 5.19 ▮▮▮▮▮	ESFP N = 300 % = 5.60 ▮▮▮▮▮▮	ENFP N = 429 % = 8.01 ▮▮▮▮▮▮▮▮	ENTP N = 362 % = 6.76 ▮▮▮▮▮▮▮	PERCEPTIVE EXTRAVERTS
ESTJ N = 428 % = 7.99 ▮▮▮▮▮▮▮▮	ESFJ N = 360 % = 6.72 ▮▮▮▮▮▮▮	ENFJ N = 266 % = 4.97 ▮▮▮▮▮	ENTJ N = 328 % = 6.13 ▮▮▮▮▮▮	JUDGING

	N	PERCENT
E	2751	51.37
I	2604	48.63
S	2510	46.87
N	2845	53.13
T	2890	53.97
F	2465	46.03
J	2497	46.63
P	2858	53.37
IJ	1115	20.82
IP	1469	27.81
EP	1369	25.56
EJ	1382	25.81
ST	1338	24.99
SF	1172	21.89
NF	1293	24.15
NT	1552	28.98
SJ	1355	25.30
SP	1155	21.57
NP	1703	31.80
NJ	1142	21.33
TJ	1416	26.44
TP	1474	27.53
FP	1384	25.85
FJ	1081	20.19
IN	1460	27.26
EN	1385	25.86
IS	1144	21.36
ES	1366	25.51

NOTES ▮ = 1% of sample

Source of Data: Myers longitudinal sample of 5355 medical students from 45 medical schools, tested as freshmen in the 1950's. Data made available to CAPT by Isabel Briggs Myers.

Myers-Briggs Type Indicator **Type Table**

MYERS LONGITUDINAL MEDICAL STUDY

FEMALE MEDICAL STUDENTS

N = 298

SENSING TYPES		INTUITIVE TYPES		
with THINKING	with FEELING	with FEELING	with THINKING	
ISTJ N = 22 % = 7.38 ▮▮▮▮▮▮▮	ISFJ N = 15 % = 5.03 ▮▮▮▮▮	INFJ N = 29 % = 9.73 ▮▮▮▮▮▮▮▮▮▮	INTJ N = 24 % = 8.05 ▮▮▮▮▮▮▮▮	JUDGING INTROVERTS
ISTP N = 4 % = 1.34 ▮	ISFP N = 4 % = 1.34 ▮	INFP N = 24 % = 8.05 ▮▮▮▮▮▮▮▮	INTP N = 22 % = 7.38 ▮▮▮▮▮▮▮	PERCEPTIVE
ESTP N = 3 % = 1.01 ▮	ESFP N = 10 % = 3.36 ▮▮▮	ENFP N = 33 % = 11.07 ▮▮▮▮▮▮▮▮▮▮▮	ENTP N = 20 % = 6.71 ▮▮▮▮▮▮▮	PERCEPTIVE EXTRAVERTS
ESTJ N = 12 % = 4.03 ▮▮▮▮	ESFJ N = 28 % = 9.40 ▮▮▮▮▮▮▮▮▮	ENFJ N = 25 % = 8.39 ▮▮▮▮▮▮▮▮	ENTJ N = 23 % = 7.72 ▮▮▮▮▮▮▮▮	JUDGING

	N	Percent
E	154	51.68
I	144	48.32
S	98	32.89
N	200	67.11
T	130	43.62
F	168	56.38
J	178	59.73
P	120	40.27
IJ	90	30.20
IP	54	18.12
EP	66	22.15
EJ	88	29.53
ST	41	13.76
SF	57	19.13
NF	111	37.25
NT	89	29.87
SJ	77	25.84
SP	21	7.05
NP	99	33.22
NJ	101	33.89
TJ	81	27.18
TP	49	16.44
FP	71	23.83
FJ	97	32.55
IN	99	33.22
EN	101	33.89
IS	45	15.10
ES	53	17.79

NOTES ▮ = 1% of sample

Source of Date: Myers' longitudinal sample of 5355 medical students from 45 medical schools, tested as freshmen in the 1950's. Data made available to CAPT by Isabel Briggs Myers.

extraverts outnumber introverts about 3:1, sensing types outnumber intuitive types about 3:1, and, in female samples, feeling types outnumber thinking types about 2:1 to 3:1. In distributions of high school students, the weight of the table is therefore in the ES quadrant of action-oriented realists with relatively few in the more upper right IN quadrant of thoughtful innovatives (see Figure 3, The Four Quadrants). Since proportionately more introverts and intuitive types go on to higher education, the distributions for college students are somewhat more even.

The type groupings at the right show that the original sample is almost equally divided in extraverts and introverts, (51% and 49%) and so is the female sample (52% and 48%). The original sample had a slightly larger number of intuitive types (S 47%, N 53%) but the female sample has a clear majority of N's (67% N to 33% S), a finding that might be expected if females had to be pioneers and achieve high aptitude scores, both of which are characteristic of N's. The total sample has slightly more T's (54% T, 46% F). Feeling types outnumber thinking types in the female students (56% F, 44% T); however, there are more T's in the female medical students than would be found in a typical sample of college females. The total sample has a slight majority of P (54% P, 46% J) but the female sample has a majority of J (60% J, 40% P). This is an atypical finding. SN and JP are positively correlated; therein, if the number of N-types increases, the number of P-types is also expected to increase. In the case of female medical students, the unexpected rise in the number of J's is probably related to the fact that J-types, who tend to organize and plan their lives, obtain higher grades and are more likely to be admitted to competitive programs. The same phenomenon has occurred in the sample of present-day medical students; compared to Myers' original sample the proportion of N's and J's has markedly increased (from 53% to 61% for N, and from 47% to 59% for J).

The next grouping of four, IJ, IP, EP and EJ, groups the rows of the table. The IJ and EP types have a perceptive function dominant, and the IP and EJ rows have a judging function dominant. This grouping points up a trend in the introverts, with the females having more IJ and fewer IP types than expected.

The second group of four includes the combinations of perception and judgment in the columns of the type table, ST, SF, NF and NT. Characteristics of these columns appear in Figure 3. The female sample has fewer practical and matter-of-fact ST's, more enthusiastic and insightful NF's, and about the expected number of SF and NT types.

THE THEORY: DOMINANT AND AUXILIARY FUNCTIONS FOR EACH TYPE

According to Jung's theory of psychological types, everyone uses all four *functions* (S, N, T, F), and adopts all four *attitudes* (E, I, J, P). The types are called *preference types* because people in each type *prefer* one of the two *perceptive functions* (S or N), and one of the two *judgment functions* (T or F). These preferences appear in the 2 middle letters of the type formula. Types also differ in the functions they prefer to use when in the introverted or extraverted attitudes.

The most preferred, or favorite, or *dominant function*, is extraverted in E types and introverted in I types. The second favorite or *auxiliary function* is introverted in E types and extraverted in I types. The type table below shows these relationships for each of the 16 MBTI types.

ISTJ INTROVERTED SENSING with Thinking Sensing is dominant and introverted Thinking is auxiliary and extraverted	ISFJ INTROVERTED SENSING with Feeling Sensing is dominant and introverted Feeling is auxiliary and extraverted	INFJ INTROVERTED INTUITION with Feeling Intuition is dominant and introverted Feeling is auxiliary and extraverted	INTJ INTROVERTED INTUITION with Thinking Intuition is dominant and introverted Thinking is auxiliary and extraverted
ISTP INTROVERTED THINKING with Sensing Thinking is dominant and introverted Sensing is auxiliary and extraverted	ISFP INTROVERTED FEELING with Sensing Feeling is dominant and introverted Sensing is auxiliary and extraverted	INFP INTROVERTED FEELING with Intuition Feeling is dominant and introverted Intuition is auxiliary and extraverted	INTP INTROVERTED THINKING with Intuition Thinking is dominant and introverted Intuition is auxiliary and extraverted
ESTP EXTRAVERTED SENSING with Thinking Sensing is dominant and extraverted Thinking is auxiliary and introverted	ESFP EXTRAVERTED SENSING with Feeling Sensing is dominant and extraverted Feeling is auxiliary and introverted	ENFP EXTRAVERTED INTUITION with Feeling Intuition is dominant and extraverted Feeling is auxiliary and introverted	ENTP EXTRAVERTED INTUITION with Thinking Intuition is dominant and extraverted Thinking is auxiliary and introverted
ESTJ EXTRAVERTED THINKING with Sensing Thinking is dominant and extraverted Sensing is auxiliary and introverted	ESFJ EXTRAVERTED FEELING with Sensing Feeling is dominant and extraverted Sensing is auxiliary and introverted	ENFJ EXTRAVERTED FEELING with Intuition Feeling is dominant and extraverted Intuition is auxiliary and introverted	ENTJ EXTRAVERTED THINKING with Intuition Thinking is dominant and extraverted Intuition is auxiliary and introverted

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Figure 3

Understanding the Type Table: Part II

THE 4 COLUMNS: COMBINATIONS OF PERCEPTION AND JUDGMENT

SENSING PLUS THINKING	SENSING PLUS FEELING	INTUITION PLUS FEELING	INTUITION PLUS THINKING
ST	**SF**	**NF**	**NT**
PRACTICAL AND MATTER-OF-FACT	SYMPATHETIC AND FRIENDLY	ENTHUSIASTIC AND INSIGHTFUL	LOGICAL AND INGENIOUS
Like using abilities in	Like using abilities in	Like using abilities in	Like using abilities in
TECHNICAL SKILLS WITH FACTS AND OBJECTS	PRACTICAL HELP AND SERVICES FOR PEOPLE	UNDERSTANDING & COMMUNICATING WITH PEOPLE	THEORETICAL AND TECHNICAL DEVELOPMENTS
for example in	for example in	for example in	for example in
Applied science Business Production Construction and many more	Patient care Community service Sales Teaching and many more	Behavioral science Research Literature & art Teaching and many more	Physical Science Research Management Forecasts & Analysis and many more

THE 4 QUADRANTS: COMBINATIONS OF ATTITUDE AND PERCEPTION

INTROVERSION AND SENSING **IS** KNOWLEDGE IS IMPORTANT TO ESTABLISH TRUTH "THOUGHTFUL REALISTS"	INTROVERSION AND INTUITION **IN** KNOWLEDGE IS IMPORTANT FOR ITS OWN SAKE "THOUGHTFUL INNOVATORS"
EXTRAVERSION AND SENSING **ES** KNOWLEDGE IS IMPORTANT FOR PRACTICAL USE "ACTION-ORIENTED REALISTS"	EXTRAVERSION AND INTUITION **EN** KNOWLEDGE IS IMPORTANT FOR CREATING CHANGE "ACTION-ORIENTED INNOVATORS"

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The third group makes it possible to see the organized and practical types who are most frequent in the population (the SJ's), the spontaneous practical people who tend to be less frequent in today's medical students, (and who have an interest in direct patient care), the spontaneous and innovative NP types who have a special interest in independent study, and the organized innovative NJ types whose numbers have been increasing as medical school has become more competitive. The females have fewer SP's and more NJ's than the total sample.

The fourth grouping focuses on the most tough-minded of the types, the logical, executive TJ's, the analytical and adaptable TP's, the sympathetic and adaptable FP's, sometimes called the "gentle types" in contrast to the TJ's, and the executive and sympathetic FJ's. The females have fewer TP's and more FJ's than expected from the total sample.

The last group of the quadrants of the type table is ordered in terms of expectations on academic measures, with the infrequent, but most academic IN's first, followed by the active innovative EN's, the practical and realistic IS's and the majority, the pragmatic ES's, whose performance in real life is often better than their performance as measured by paper-and-pencil measures. The females have more IN's and EN's, and fewer IS's and ES's. Data presented in this report will use the CAPT type table format of presenting the 16 types and type groupings.

b. Type Differences in Populations, The Selection Ratio Type Table (SRTT)

In the preceding comparison of the female medical students with the distribution of the total Myers sample, certain observations were made, but there was no statement as to the probability that relationships were simply chance occurrences.

Comparisons of two type tables are frequent in MBTI research, and CAPT has therefore created a computer program, the Selection Ratio Type Table Program, to compare the 16 types and the type groupings, and to estimate the probability that differences observed could have occurred by chance alone.

Much of the research with the Myers-Briggs Type Indicator is still preliminary or exploratory in nature. This is the case in most of the descriptive data in these reports. While there are theoretical and empirical reasons to predict some type differences in academic variables and certain specialty choices, the analyses of geographical area of residence, or membership in professional societies, is primarily descriptive. As a convenience for describing type differences, partly to make it easier to compare findings across different studies and partly to improve hypothesis-generation, it has been the practice of CAPT to report 44 different statistics when a type table is being prepared. This practice has sometimes produced confusion or error, which can be avoided by noting the following facts:

> Every statistic is reported as if it were the only statistic being calculated. In research where specific relations are predicted, the experimenter will find results of the significance test on the table. If other relationships are labeled as significant, these can be used for hypothesis generation in future research.
>
> When total numbers are small, the numbers in each individual type may not be sufficient to demonstrate statistical significance, even in the presence of large effects. It has become common practice to group the types by pooling data in ways which have theoretical importance because of shared characteristics postulated for types in the "pool." The larger numbers so obtained may permit significance to be observed, though the meaning in terms of type theory may be somewhat blunted. The groupings appear to the right of type distributions.
>
> In interpreting findings of pooled data, caution is required; a conclusion may be true for a pooled category, but may yet not be true for all types within it.
>
> A series of statistical consultations on the best ways to compare type distributions were held during the contract year. Major gains in analysis of contingency tables are now occurring, and multi-dimensional analyses which can categorize main effects and subordinate effects are possible. The consensus was, however, that these newer methods are still too complex to use and interpret. Although multi-dimensional methods were tested, with comparable results to those in the program used by CAPT, the group concluded that it was not feasible to conduct these more sophisticated analyses in the large numbers required by the study.
>
> In the following explanation of the CAPT Selection Ratio Type Table, we stress that we realize that this is a primitive way of describing a complex set of interactions, but that it still can be most informative *if used with due caution*. Readers should keep in mind that when 44 analyses are done as if they are independent, when in fact they are not, one must realize that by chance 2 or 3 "significant" findings are expected to occur. Some users prefer to take seriously only relationships significant at probability levels of one in one-thousand.

c. Example of Interpreting SRTT

The example already discussed comparing the 298 female medical students with the expected distribution of the total sample, is used to show how to locate information on the SRTT computer output, and how to interpret the data.

The research question is: Taking the total sample of 5355 as the expected distribution of any subgroups within that sample, are there significantly more or fewer females in any type or type grouping than would be expected from the total sample?

Table 7 is a copy of the computer output for the SRTT table of the 298 females in the Myers Longitudinal Medical Sample.

(1) Base Population

Base population under the table itself identifies the population to which the table was compared. If the table is part of the base population, as in this case, the program option "dependent" is used. If the two samples were independent (as in comparing business students and science students) the program option "independent" would have been used.

(2) Description of the Sample

The name of the sample in the table is centered above the table.

(3) Facts Presented (see INFJ as example)

For each analysis, four facts are given: the number, the percent in the table, the selection ratio, and the statistical probability that the ratio occurred by chance. For INFJ, there were 29 students who were 9.73% of the 298 female students. The selection ratio (I) is 2.49, indicating that there are two and one-half times as many INFJ females as would be expected from their frequency in the total sample, and this ratio would be expected to occur by chance less than once in 1000 times.

(4) The Selection Ratio or Index

The ratio (or I) can be obtained in one of two ways. It is the ratio of the proportion of INFJ's in the females to the proportion of the total sample. Referring back to Tables 4 and 5, the % of INFJ females is 9.73, and the percent of INFJ's in the total sample is 3.90; dividing 9.73 by 3.90 gives the ratio of 2.49.

Table 7. Sample of Selection Ratio Type Table (SRTT)

```
SOURCE OF DATA:                     GROUP                      MBTI TYPE TABLE
                                  TABULATED:               CENTER FOR APPLICATIONS
   MYERS MEDICAL SAMPLE                                     OF PSYCHOLOGICAL TYPE
       FOLLOW-UP #2            ②→TOTAL SAMPLE
 HEW CONTRACT 231-76-0051                                  LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT          FEMALES                  TOTAL CHOOSING THIS GROUP
                                                           WHO FALL INTO THIS TYPE.
  TABLE CREATED 06/24/77                                   I = SELF SELECTION INDEX;
                                                           RATIO OF PERCENT OF TYPE
                                   N=  298                 IN GROUP TO % IN SAMPLE.

                                                              ↓       ↓    ⑥      ↓
      SENSING TYPES            INTUITIVE TYPES
  WITH          WITH          WITH          WITH                      N     %      I
THINKING      FEELING       FEELING       THINKING
------------------------------------------------------          E   154  51.68   1.01
| I S T J    | I S F J    | I N F J    | I N T J    | J         I   144  48.32   0.99
|            |            |  ③↓        |            | U
| N=  22     | N=  15     | N=  29     | N=  24     | D         S    98  32.89   0.70*
|            |            |            |            | G         N   200  67.11   1.20*
| %= 7.38    | %= 5.03    | %= 9.73    | %= 8.05    | I
|            |            |            |            | N I       T   130  43.62   0.81*
| I= 1.23    | I= 1.10    | I= 2.49*   | I= 1.27    | G N       F   168  56.38   1.22*
|            |            |  ④↑        |            |   T
------------------------------------------------------   R      J   178  59.73   1.28*
| I S T P    | I S F P    | I N F P    | I N T P    |   O      P   120  40.27   0.75*
|            |            |            |            |   V
| N=   4     | N=   4     | N=  24     | N=  22     |   E      IJ    90  30.20   1.45*
|            |            |            |            |   R      IP    54  18.12   0.65*
| %= 1.34    | %= 1.34    | %= 8.05    | %= 7.38    | P T
|            |            |            |            | E S      EP    66  22.15   0.87
| I= 0.23#   | I= 0.27#   | I= 1.11    | I= 0.70    | R        EJ    88  29.53   1.14
|            |            |            |            | C
------------------------------------------------------ E        ST    41  13.76   0.55*
| E S T P    | E S F P    | E N F P    | E N T P    | P        SF    57  19.13   0.87
|            |            |            |            | T
| N=   3     | N=  10     | N=  33     | N=  20     | I        NF   111  37.25   1.54*
|            |            |            |            | V        NT    89  29.87   1.03
| %= 1.01    | %= 3.36    | %=11.07    | %= 6.71    | E
|            |            |            |            | S E      SJ    77  25.84   1.02
| I= 0.19#   | I= 0.60    | I= 1.36"   | I= 0.99    |   X      SP    21   7.05   0.33*
|            |            |            |            |   T
------------------------------------------------------   R      NP    99  33.22   1.04
| E S T J    | E S F J    | E N F J    | E N T J    | J A      NJ   101  33.89   1.59*
|            |            |            |            | U V
| N=  12     | N=  28     | N=  25     | N=  23     | D E      TJ    81  27.18   1.03
|            |            |            |            | G R      TP    49  16.44   0.60*
| %= 4.03    | %= 9.40    | %= 8.39    | %= 7.72    | I T
|            |            |            |            | N S      FP    71  23.83   0.92
| I= 0.50#   | I= 1.40    | I= 1.09#   | I= 1.26    | G        FJ    97  32.55   1.61*
|            |            |            |            |
------------------------------------------------------          IN    99  33.22   1.22"
                                                                EN   101  33.89   1.31#

                                                                IS    45  15.10   0.71#
                                                                ES    53  17.79   0.70#

  NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
       "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
 ⑤→    #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
       *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

①→BASE POPULATION USED IN CALCULATING SELECTION RATIO:
  TOTAL MEDICAL STUDENT POPULATION TESTED
  BASE TOTAL N =5355. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER                E    0.01   IJ  16.84   SJ   0.35   IN   5.65
                                        I    0.01   IP  14.74   SP  39.34   EN  10.61
 1.08     0.14     28.58     1.58                   EP   1.94   NP   0.29   IS   7.37
                                        S   24.79   EJ   2.28   NJ  29.70   ES   9.91
 0.00     0.00      0.29     2.04       N   24.79
                                                    ST  21.22   TJ   0.69
 0.00     3.01      4.02     0.00       T   13.59   SF   1.40   TP  19.63
                                        F   13.59   NF  29.56   FP   0.67
 6.75     3.60      7.83     1.39                   NT   0.12   FJ  29.94
                                        J   21.77
                                        P   21.77
```

A second way to obtain the ratio is to divide the observed by the expected frequency. The analysis assumes that the base population provides the frequencies to be expected in any subgroup in the population. Therefore, since there are 3.90 INFJ's in the total population, the null hypothesis is that 3.90% of the female sample will also be INFJ. Taking 3.90% of the sample of 298 females gives an expected frequency of 11.62 INFJ's. When the observed frequency, 29, is divided by the expected frequency, 11.62, the ratio of 2.496 results.

(5) Statistical Significance of Selection Ratios

To save space, three single symbols are used to identify levels of statistical significance:

" indicates $p <.05$ and when typewritten appears as *.

# indicates $p <.01$ and when typewritten appears as **.

* indicates $p <.001$ and when typewritten appears as ***.

The significance level is computed as a 2 x 2 Chi Square with one degree of freedom. In this case, the table would be:

	INFJ	All Others	Total
Females	29	269	298
Males	180	4877	5057
Totals	209	5146	5355

The program computes Chi Square statistics separately for each Index. If the numbers in the cells do not meet the requirements for calculating Chi-Square, the program reports a Fisher's Exact Probability, and underscores the result. (See ISTP, ISFP and ESTP.) For researchers interested, the calculated Chi Square or Fisher probability values appear at the bottom of the table. The value for INFJ is 28.58.

(6) Groupings of the Types

The same procedure exactly is used for each line of the type groupings. For example, in the last group, IN is compared to EN + IS + ES, then EN is compared to IN + IS + ES, and so on.

(7) Interpreting the Ratios

A ratio of 1.00 indicates that the observed frequency in the table is the same as the number expected from the base population. Ratios more than 1.00 indicate that the table has more than the expected number, and ratios less than 1.00 indicate fewer than the expected number. Probability statistics always take into account the size of samples, since an atypical score can more easily affect small samples but will have almost no effect on very large samples. The result is that the tables for small samples will often show large ratios which are not significant, while much lower ratios are statistically significant in larger samples.

The following statements describe the significant findings of the SRTT on the 298 females in the Myers sample. They are designed for those interested enough to wish to understand SRTT's in all their fine points, and as a warning against over-interpretation. The groups of 4 inevitably go over the same ground as the four main preferences EI, SN, TF, and JP. Often the groups of 4 identify trends more precisely than the main preferences, but sometimes they merely repeat what the main preference has already stated.

(a) Individual Types. Compared to the total sample, the female sample has significantly more INFJ's, ENFP's and ENFJ's and significantly fewer ISTP's, ISFP's, ESTP's and ESTJ's.

(b) EI. There is no consistent EI difference. (Note also that of the 8 I types, 5 have ratios higher than 1.00 and 3 have ratios less than 1.00. In the E types, 4 have ratios over 1.00 and 4 have ratios less than 1.00.

(c) SN. The female sample has significantly more intuitive types than the total sample. (However, note that there are 2 N types with ratios less than 1.00, and 3 S types with ratios larger than 1.00.)

(d) TF. There are significantly more feeling types in the female sample than expected compared to the base population of 5355 students. (However, 2 of the F-types, ISFP and ESFP, are underrepresented.)

(e) JP. The female sample has significantly more judging types than expected from the base population of 5355 students. Seven of the 8 J types have ratios greater than 1.00, but the 8th type, ESTJ, has a ratio significantly less than 1.00. Although judging types in females are more frequent, the general trend does not follow for the tough-minded pragmatic ESTJ's.

(f) Type Groupings. The SRTT statistics for the four main MBTI preferences, EI, SN, TF and JP, show three significant differences from the expected distributions, but in none of the three is there a clearcut and consistent trend for all 8 types in the group. It is possible that the groups of four will be more sensitive to trends.

There are three groupings which look at SN differences, already shown to be significant. In the four ST-SF-NF-NT comparisons, both ST and SF have ratios less than 1.00 and NF and NT have ratios more than 1.00. Information is added, in that only 2 are significant, ST significantly below and NF significantly above chance expectations. In the ST column, however, it is clear that ISTP, ESTP and ESTJ account for the significant finding; in fact, ISTJ has a ratio (non-significant) against the trend of the other three. In the NF column, the finding is more clearcut—all four types have ratios greater than 1.00.

In the four SJ-SP-NP-NJ analyses, more precision in two significant differences in the main preferences can be found, the higher proportion in females of both N and J. This grouping is more easily interpreted since all four -N-J types have ratios greater than 1.00, and all four -S-P types have ratios lower than 1.00. The SN and JP differences are mainly here, with non-significant ratios in -N-P types and -S-J types.

The third grouping which looks at SN differences is IN-EN-IS-ES. Knowing that there are more N females, the ratios for IN and EN should be (and are) greater than 1.00, and the ratios for IS and ES should be (and are) less than 1.00. All four are statistically significant, but in none are all four ratios within the group in the same direction. This group does not add to the observation already noted that the NF and NJ groups are significantly over-represented and -S-P types underrepresented.

Two groupings with JP differences permit a closer look at the observation that the female sample has more J's than the population as a whole. The analyses of IJ-IP-EP- and EJ adds information, since only the ratios for introverts are significant, with more IJ and fewer IP types. All four I--J types have ratios more than 1.00, but only three I--P types have ratios less than 1.00.

The final grouping is TJ-TP-FP-FJ, and again the JP difference is narrowed down to a comparison of the over-represented --FJ types and the underrepresented --TP types. All four ratios in both groups are in the same direction (though ENTP is almost 1.00).

To summarize, in another sample, one might use these data to expect that among females there would be more I--J, --FJ, -NF- and -N-J types, and fewer -S-P and -T-P types.

In words, females were more likely to come from the organized (J) contemplative IJ types, the enthusiastic and insightful (NF) types, and the types who wish to use feeling in controlling their world (FJ) types. There were fewer females in the easy-going practical (SP) types and in the logical adaptable (TP) types. One would therefore expect the female group of the Myers sample to be innovative (N), forceful (J), physicians, dedicated to human welfare (F).

The foregoing description was designed to clarify both the uses and limitations of SRTT's, since they make up the bulk of the tables in this report. Summary tables and rankings are abstracted from SRTT's. Persons interested in any particular trend would do well to look at the original SRTT showing the details of all relationships.

d. Type Differences in Quantitative Variables

Investigators often wish to examine type differences in aptitude or achievement measures, or on scales of personality tests. These relationships can be displayed in a Means Comparison Type Table, which displays the number, percent, mean, standard deviation, and ranking for each type, and the number, mean and standard deviation for each type grouping. A one-way analysis of variance provides an estimate of significance of differences over the entire table; *t* tests are used to compare means for E and I, S and N, T and F and J and P. *F* tests for a one-way analysis of variance are run for each of the 5 sets of four type groupings.

The statistical consultants of the project are developing and have tried out an analysis which will test distributions for curvilinearity and will identify the family of curves if relationships are not linear; the program will also make it possible to identify the variance attributable to direction of preference (letters of type) and strength of preference (size of scores). This work was not far enough along to reanalyze data with the improved program. As with SRTT, the means comparison tables are descriptive. Each analysis is treated as if it were independent, when in fact it is merely a series of groupings of the same data. If predictions are made in advance this form of presentation poses no problem. The predicted relationships can be read, and any other significant findings can be used for generating hypotheses in future studies. The same caution is needed in reading means comparison tables as in SRTT's. Many of the significant findings in the groups of four are merely a restatement of relationships already explained in EI, SN, TF or JP.

e. Absolute Numbers Versus Selection Ratios

In interpreting data from this report, readers should be alerted to the different meanings of the data, each of which has different practical implications. One fact given is the absolute number in a given category. This fact is important in many manpower decisions. The second fact is the ratio of observed to expected frequencies. This fact is important in issues relating to differences in motivation and interests.

An example of the differences is shown in data abstracted from the dissertation of H. W. Perry (1975). In Perry's data on 72 psychologists the following relationships were found:

Group	N	% S	Ratio	% N	Ratio
Total Sample (base population)	72	18%	1.00	82%	1.00
Experimental Psychologists	30	33%	1.85**	67%	.81**
Clinical Psychologists	25	4%	.22*	96%	1.17*
Other Psychologists	17	12%	.65	86%	1.08

All three subgroups have a majority of intuitive types. However, compared to the overall trend, proportionately more sensing types chose experimental (there are 13 sensing types in the sample, 10 of whom are in experimental psychology).

If the question is one of numbers: "Are experimental psychologists sensing types or intuitive types?" the answer would be *intuitive types* since 67% of the experimental psychologists preferred intuition.

However, if the question is, "In a sample of psychologists, what types are particularly attracted to experimental?" the answer would be *sensing types* since the selection ratio is 1.85**, with almost twice as many psychologists in experimental as would have been predicted. (Perry found that all the careful and dependable ISTJ and ISFJ types had chosen experimental psychology.)

This point is stressed because it is important in using MBTI data, as in using any research findings, to make sure those facts are used which are more relevant to the questions being asked. Persons concerned with manpower would be most impressed with the fact that most psychologists are intuitive types. Persons concerned with individual guidance would be impressed with the fact that sensing types who enter psychology are more likely to be interested in experimental psychology.

Data presented in this report will present both the percentages of the sample and the selection ratios, so that both kinds of users can use the findings for their own answers.

f. Other Statistical Analyses

A variety of multivariate methods and non-parametric statistics have been used with MBTI data. These will be explained as necessary in describing specific research findings.

5. Selection and Presentation of Data in this Report

That data in the Report are a fraction of the analyses run by CAPT, given us by other investigators or found in the literature.

Examples of data to illustrate specific points are given in this report, or in the supplements for the specific profession.

In summarizing data, two major decisions were made:

a. Summaries were prepared for EI, SN, TF and JP, and for the sixteen types, but not for other type groupings. SRTT tables giving the total description are found in the appendix supplement for the profession in question.

b. Summaries include all the profession, both students and practitioners. Differences between students and practitioners are commented on in the text.

c. SRTT's are included for groups where the number in the sample is 30 or greater. This admittedly is a very small number, especially for MBTI research when samples are divided into 16 unequally distributed types. Because this is a baseline descriptive study, we decided to err on the side of over-reporting, but any data from these small groups should be considered highly tentative.

d. In some tables, the percentages and ratios for both poles of the preference are given. This is redundant, since one pole can be inferred from the other, but we have found people find it easier to see patterns if they have all the data for the preference with which they are directly concerned.

PART II

INTEREST IN THE HEALTH PROFESSIONS
AND SELECTION FOR TRAINING

The purpose of this section of the monograph is to answer the following questions:

> What types of students are interested in the health professions?
>
> Are there differences in the types attracted to specific health professions?
>
> Are interested types admitted to training in proportion to their numbers, or are applicants of some types more likely to be admitted, while applicants of other types are more likely to be rejected?

A. Theoretical and Empirical Predictions of Interest in Health Careers

Most users of the MBTI assume that any complex task needs the expertise of all kinds of people. Therefore, no type should be ruled out of an occupation, on the basis of type alone, if the person is otherwise motivated and qualified. However, both researchers and counselors find that, in fact, all types are not equally interested in all occupations.

Career choices involve a matching of personal interests and abilities with occupations which require certain aptitudes and skills. No occupation, even the most unskilled, calls on only one skill, and the health professions typically call on many different talents. To the extent that the mix of talents needed by a profession is different, then the distribution of types interested will also be different.

All types are more likely to have developed the skills and interests associated with their dominant and auxiliary functions (S, N, T or F) and to be somewhat less interested in the tasks requiring use of their two less preferred functions. (It is not that a type cannot do tasks requiring less-preferred functions, but that these tasks are intrinsically less interesting and require greater effort.) In theory, therefore, people are likely to seek careers which call on the functions which provide greater interest and satisfactions and in which they have developed greater skills.

The same principle applies to the four attitudes (E or I, J or P), though here the effect of preferences may be more in how the tasks are carried out, rather than the choice of the tasks themselves.

In the real world, effects of type may not be large because of the other pressures in career selection and in the task structure of work settings. Type will have little effect in career decisions if people do not know what careers require, if they do not know themselves and what interests them, if training opportunities are unavailable, if jobs are unavailable and if economic pressures or family factors make less compatible careers desirable.

As a beginning, we looked at health professions on which we had data, to see whether the patterns of type distributions seemed to make sense in light of our understanding of the tasks of those professions. We were particularly interested in the combinations of preferences: ST (interested in using technical skills and equipment), SF (interested in actual care of the patient day to day), NF (interested in understanding, communicating with, and facilitating the growth of patients) and NT (interested in the scientific and analytic sides of health).

To avoid misunderstanding, we do not predict that only the SF types can give good patient care. The prediction is that SF types have a special affinity for patient care tasks. The day-to-day activities of patient care require an attention to detail and an enjoyment of carrying out tasks in skillful ways, qualities facilitated by S, plus a concern with people and their well-being, qualities facilitated by F. In looking at any field where continued direct patient care is important, therefore, we were particularly interested in seeing the proportion of SF types.

1. The Place of Health Professions in Other College Majors

The largest data bank of MBTI's in college students is at Auburn University, where all entering students have been tested for over a decade. Conary (1965) reported on initial career choices of one class, but there were so few in health majors (34 pre-medicine, 13 pre-dentistry, 26 laboratory technology, 52 pre-pharmacy) that few trends are evident. Laboratory technology appeared to be more attractive to introverts, pre-medicine to intuitives, and pre-pharmacy to thinking types. No large-scale follow-up studies have been conducted on this valuable data base.

In 1972 and 1973 McCaulley at the University of Florida tested incoming students as part of a study to improve academic advisement. A year later the students were followed up to see what majors they had reported. The sample of 3275 students had 20% ST, 27% SF, 35% NF, and 19% NT types. Health Professions majors were claimed by 658 students. Figure 4 shows the percent in each of the four columns ST, SF, NF, NT. Feeling types outnumber thinking types in all fields (as in the total University sample). The "patient-care" SF's outnumber other groups in students planning to enter physical therapy, dentistry, nursing and pharmacy. The NF's outnumber the other columns in students planning to enter Medical Technology, Occupational Therapy, Medicine and Veterinary Medicine.

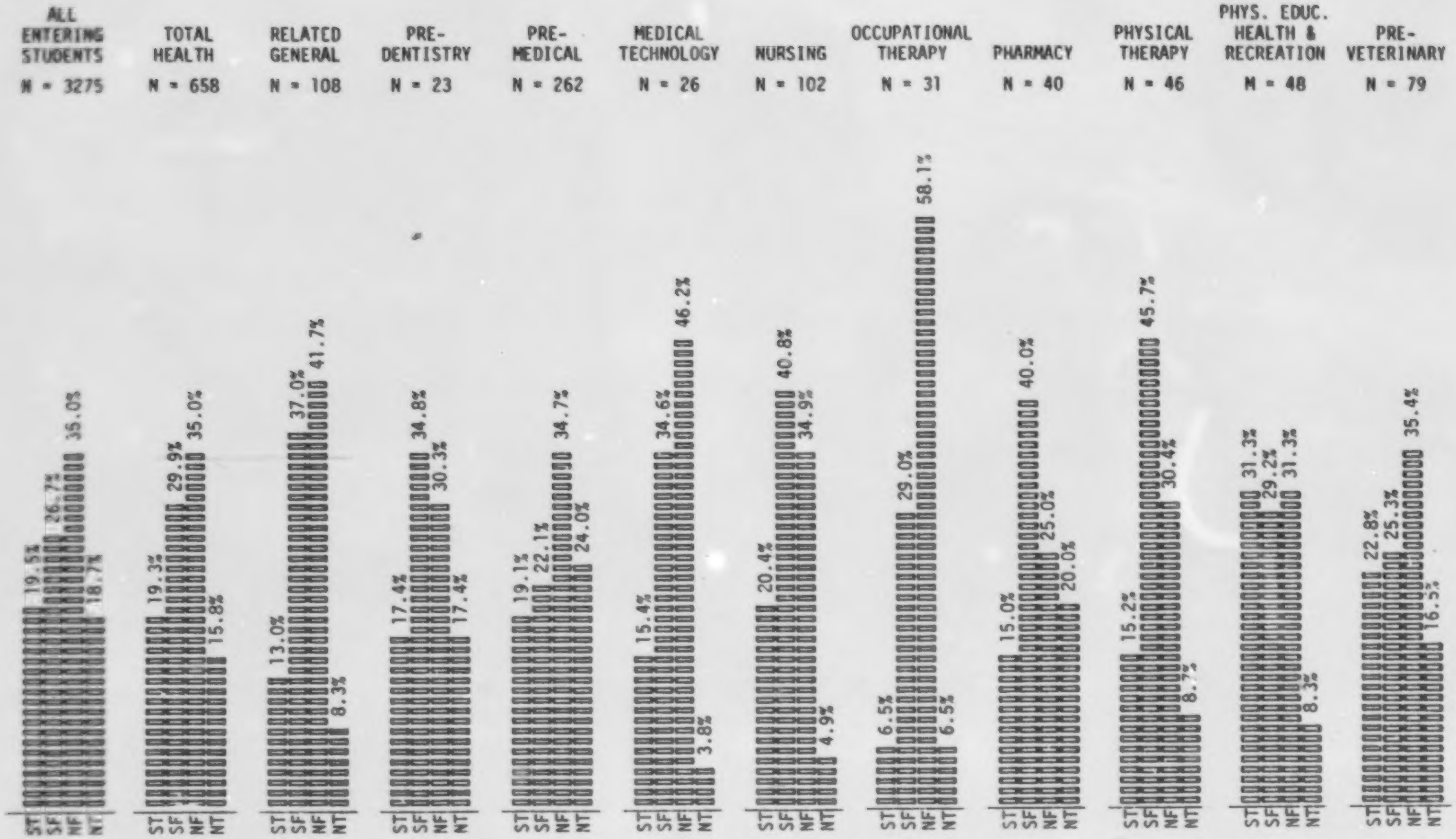

Figure 4
Initial Plans for Careers in Health.

Distribution of MBTI Combinations of Perception and Judgment for 658 University of Florida Students Indicating Plans to Enter a Specific Health Career, out of 3275 Entering Freshmen and Transfers in 1973.

Investigator: M. H. McCaulley

2. Strong Vocational Interest Blank Scores and MBTI Preferences

Career counselors often use vocational interest tests to help people decide on career choices. One of the most carefully-researched of these tests is the Strong Vocational Interest Blank (Strong & Campbell, 1966). Myers reported correlations between MBTI and SVIB scales in the MBTI *Manual*. At the University of Florida, the SVIB and MBTI were given for several years to students enrolled in a course entitled Introduction to the Health Related Professions. Table 8 shows the correlations of the MBTI and SVIB scales for 628 females and 126 males, most but not all of whom were considering careers in the allied health professions.

Using correlations significant at the .05 probability level, fields associated with sensing were Dental Assistant (-S-J), Dietitian (-STJ), Medical Technologist (ISTJ), Licensed Practical Nurse (-S-J), Pharmacist (-S--), Physical Therapist (-STJ for females, --F- for males), Radiologic Technologist (-STJ), and Veterinarian (-S--). Fields associated with a preference for intuition were Biologist (-N--), Guidance Counselor (EN--), Librarian (IN-- for females, -NF- for males), Occupational Therapist (-N-P), Physician (INT- for females, -N-- for males), Psychiatrist (-N--), Psychologist (-NT- for females, -N-- for males), Recreation Leadership (EN-P for females, ---P for males), Social Work (EN-- for females, ENF- for males) and Speech Pathologist (EN--). All these correlations are in the directions predicted from Jung's theory.

In the Nonoccupational Scales, Academic Achievement (designed to reflect interests in scholarship) was associated with intuition (INT- for females, -N-- for males). Diversity of Interests was associated with intuition (EN-- for females, -NF- for males). Masculinity-Femininity (designed to reflect typical masculine interests) was associated with practical objectivity (-ST-). Occupational Introversion (designed to show an orientation to things versus people) was correlated most with introversion, and next with sensing. Occupational Level (designed to separate interests of unskilled workers from those of men-in-general) had no significant correlations in this college group. Specialization Level (developed originally to differentiate specialists in medicine from other physicians, and later used as an index of interest in graduate training) was correlated with intuition. Age-Related Interests (an experimental scale which may relate to psychological maturity) was associated with -N-J. In our research, the -N-J types were most likely to be admitted to medical school despite heavy competition. Managerial Orientation (designed to identify good managers) was associated with ENT- as would be expected, but not with J, as would also be expected.

The correlations are consistent with expectations from type theory. Tables were run of high scorers and of low scorers on each of the health profession scales, to see if the type distributions based on SVIB scores would be similar to the type distributions of actual students and practitioners in the same fields. Comments about these comparisons are given in the discussion of each profession.

Table 8
Product-Moment Correlations between MBTI Continuous Scores and Selected Strong Vocational Interest Blank Scores for 628 Female and 126 Male Health Related Professions Students

STRONG VOCATIONAL INTEREST BLANK	FEMALES					MALES				
	EI	SN	TF	JP	MAIN PREF	EI	SN	TF	JP	MAIN PREF
BASIC INTEREST SCALES										
Public Speaking	-43***	24***	-10*	09*	EN--	-27**	02	16	02	E---
Law/Politics	-28***	09*	-19***	06	E-T-	-09	-00	12	-03	----
Business Management	-	-	-	-	-	-16	-13	09	-10	----
Sales	-	-	-	-	-	-19*	-19*	06	-03	----
Merchandising	-20***	-00	03	01	E---	-	-	-	-	-
Office Practices	-06	-19***	-08	-08	-S--	-07	-16	14	-16	----
Military Activities	-	-	-	-	-	-05	-12	04	-26**	---J
Technical Supervision	-	-	-	-	-	-08	-16	-08	-04	----
Mathematics	-	-	-	-	-	02	-14	-16	-22*	---J
Numbers	-01	-12**	-28***	-12**	-STJ	-	-	-	-	-
Science	-	-	-	-	-	01	15	-11	-07	----
Physical Science	-00	11*	-22***	-06	--T-	-	-	-	-	-
Biological Science	00	-03	-15***	-13**	--TJ	-	-	-	-	-
Nature	-	-	-	-	-	-08	21*	14	07	----
Outdoors	03	23***	11**	15***	-NFP	-	-	-	-	-
Mechanical	-00	23***	-19***	06	-NT-	-01	10	-09	-06	----
Medical Service	-05	-07	-10*	-13**	---J	-04	-16	06	-05	----
Teaching	-16***	09*	18***	01	E-F-	-16	13	48***	01	--F-
Social Service	-16***	09*	19***	07	E-F-	-25**	09	38***	-11	E-F-
Religious Activities	-11**	-07	13**	-07	E-F-	-09	-08	44***	-17	--F-
Music	-02	23**-	10***	06	-N--	-19*	32***	28**	09	-NF-
Art	-02	37***	16***	16***	-NFP	-07	40***	13	09	-N--
Performing Arts	-13**	35***	18***	19***	ENFP	-	-	-	-	-
Writing	-10*	38***	11*	17***	-N-P	-13	36***	19*	10	-N--
Agriculture	-	-	-	-	-	-11	14	12	12	----
Adventure	-	-	-	-	-	-02	26**	-04	25**	-N-P
Sports	-25***	-03	-01	07	E---	-	-	-	-	-
Homemaking	-03	-10*	07	-11*	----	-	-	-	-	-
OCCUPATIONAL SCALES										
Biologist	-	-	-	-	-	11	29***	-07	02	-N--
Chemist	-	-	-	-	-	22**	13	-26**	-03	I-T-
Dentist	30***	-08	-28***	-15***	I-TJ	25**	-06	-19*	-02	I---
Dental Assistant	-05	-48***	-08	-30***	-S-J	-	-	-	-	-
Dietician	-10*	-13**	-15***	-18***	-STJ	-	-	-	-	-
Engineer	-	-	-	-	-	23**	-10	-36***	-20*	I-T-
Guidance Counselor	-40***	14**	-01	-03	EN--	-	-	-	-	-
Librarian	12**	32***	-07	-01	IN--	-09	38***	24**	14	-NF-
Mathematician						19*	07	-16	-11	----
Medical Technologist	18***	-17***	-27***	-18***	ISTJ	-	-	-	-	-
Nurse: Lic. Pract.	-06	-33***	-10*	-32***	-S-J	-	-	-	-	-
Public Health	-10*	-08	20***	-14***	--FJ	-	-	-	-	-
Registered	-14***	-08	14***	-10*	E-F-	-	-	-	-	-
Osteopath	-	-	-	-	-	07	02	02	-05	----
Occupational Therapist	-09*	34***	10*	11**	-N-P	-	-	-	-	-
Pharmacist	-	-	-	-	-	08	-48***	-10	-16	-S--
Physical Therapist	-04	-14***	-20***	-15***	-STJ	-12	02	21*	-06	--F-
Physician	12**	15***	-17***	-04	INT-	07	24**	-00	12	-N--
Physicist	-	-	-	-	-	22*	07	-27**	-07	I-T-
Psychiatrist	-	-	-	-	-	-12	42***	04	06	-N--
Psychologist	06	39***	-12**	07	-NT-	03	43***	-12	12	-N--
Radiologic Technologist	09*	-24***	-18***	-14***	-STJ	-	-	-	-	-
Recreation Leadership	-47***	20***	05	09*	EN--	-04	-02	14	20*	----
Rehabilitation Couns.	-	-	-	-	-	-23**	18*	33***	-03	E-F-
Social Work	-19***	18***	00	01	EN--	-27**	30***	32***	09	ENF-
Speech Pathologist	-17***	34***	-03	08	EN--	-	-	-	-	-
Veterinarian	-	-	-	-	-	06	-33***	12	-03	-S--
NON-OCCUPATIONAL SCALES										
Academic Achievement	17***	27***	-12**	04	INT-	-09	27**	10	-13	-N--
Diverse Interests	-34***	22***	02	09	EN--	-22*	17*	23**	-05	--F-
Masculine Interests	-10*	-31***	-23***	10*	-ST-	11	-29***	-18*	-05	-S--
Occupat. Introversion	61***	-30*	04	-15**	IS-J	44***	-27**	-17	-07	IS--
Occupational Level	-	-	-	-	-	-14	13	-01	-07	----
Specialization Level	-	-	-	-	-	-20*	35***	-03	-02	-N--
Age-Related Interests	-	-	-	-	-	-08	19*	07	-23*	---J
Managerial Orient.	-	-	-	-	-	-18*	23**	-27*	-01	-NT-

Notes: Decimals omitted
Positive correlations are related to MBTI preference for I, N, F or P, negative to preferences for E, S, T or J.
Letters shown in Main Preference columns represent correlations significant at .01 probability level.

Subjects are students in a course at the University of Florida entitled Introduction to the Health Related Professions.
Data collected by M. H. McCaulley and faculty of the course.

B. Interest in Medicine and Admission to Medical School

In the 1950's, Myers collected her longitudinal sample of 5355 medical students from 45 medical schools. Her sample has the most balanced distribution of types of any professional group yet studied. There were 51% E and 49% I, 47% S and 53% N, 54% T and 46% F and 47% J and 53% P. The most frequent type was INTP (9.77%) and the least frequent type was ISFJ (4.59%).

Compared to Myers' sample of 3503 male college preparatory high school students, the 4623 males from predominantly white medical schools had significantly more I's (50% compared to 38%) and N's (53% to 42%), and significantly fewer T's (53% to 62%) and J's (43% to 51%). For the 434 males from the two predominantly black medical schools, compared to the 3503 male high school students, there was no difference in the proportion of E's (63% compared to 62%) and S's (58% compared to 58%), but medical students had significantly more T's (72% to 62%) and J's (75% to 51%).

When the 257 female medical students from the predominantly white schools were compared to Myers' sample of 2503 female high school students in college-preparatory courses, the medical students had significantly more I's (48% compared to 32%), N's (70% compared to 42%), T's (42% to 33%) and J's (59% to 52%). There were only 41 females in the two predominantly black schools. Compared to the 2503 high school females, there were significantly more I's (51% compared to 32%) and T's (54% to 33%). There were non-significantly more N's (51% to 42%) and J's (66% to 52%).

When the males and females of the predominantly white schools were compared with Myers' samples of 3676 male liberal arts college students and 484 female college students, the medical students had significantly more introverts. There were relatively more sensing types in males, and intuitive types in females. There were relatively more thinking types in females, and perceptive types in males. When the males and females of the predominantly black schools were compared with a sample of 311 male and 448 female undergraduates at Howard University reported in 1972 by Levy, Murphy & Carlson, the male medical students had significantly more N's and T's.

In the 1950's therefore, medical schools were admitting all types in approximately equal numbers. Introverts and intuitives were more attracted to medical school, a fact that is not surprising since these types are relatively more interested in college and graduate study. Minority students had more T's and J's than the white male majority. Thinking can give a tough-minded objectivity and ability to persist in an unappreciative atmosphere. Judgment can give a capacity to organize and to follow a life plan. Intuition is often associated with higher scores on aptitude tests. All three are useful in meeting difficult challenges, such as minority admission to medical school.

Given the increased competition for medical school in the 1970's, changes in type distributions for all groups of students might be expected.

1. Comparison of Myers' Sample with Today's Medical Students

Table 6 showed the Myers' Longitudinal Sample. It is repeated here, matched with the Table 9 showing the 5982 Medical Students tested in the 1960's and 1970's. It is immediately apparent that today's students have more types on the intuitive side of the table (61% compared to Myers' 53%) and that there has been a sharp drop in the numbers of the four practical and perceptive SP types (10% compared to 22% in the 1950's). As will be seen later, the sensing types are relatively more interested in providing direct patient care.

Today's students have approximately the same numbers of extraverts and introverts as in the 1950's (52% introverts today compared to 49% in Myers' sample). The proportion of feeling types has risen from Myers' 46% to today's 57%, and the proportion of judging types has also increased from 47% to 58%. Today's students have proportionately more of the types who receive higher science scores (NT's) and good grades (J's).

The increase in feeling types may reflect a greater awareness of the human side of medicine, the presence of more females who are more likely to prefer feeling judgments, or it may simply reflect the cultural change mentioned in Part I. More feeling responses have become popular, and there is a rise in the number of feeling types in many samples collected today, compared to samples of the 1950's and early 1960's.

2. Pre-medical and Medical Students Compared to High School Students

Myers found proportionately more introverts and intuitive types in medical school than in her high school samples. When the composite of today's 362 premedical and 5982 medical students is compared to the 6738 high school juniors and seniors on the CAPT data bank, the medical students have significantly more introverts (51%, ratio 1.17***), intuitive types (61%, 1.41***), and judging types (59%, 1.35***). Although feeling types are in the majority among medical students (57%), there are significantly fewer than in high school (ratio .88***).

3. Pre-medical and Medical Students Compared to College Populations

Compared to the 11,122 college freshmen in the CAPT data bank, the medical students have significantly more introverts (1.14***), intuitive types (1.37***), thinking types (1.32***), and judging types (1.11***). As in the high school comparison, ISTJ is the only one of the eight sensing types found in more than the expected numbers in medical school. Although ENFP is the most frequent type in today's medical students, there are still significantly fewer of these innovative students than would be expected from their presence in high school and college (.85***). Table 10 shows these relationships.

Table 9

Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF
MEDICAL STUDENTS TESTED IN THE 1960's AND 1970's
N = 5982

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N = 491 % = 8.21 ▮▮▮▮▮▮▮▮ I = 1.34***	*ISFJ* N = 448 % = 7.49 ▮▮▮▮▮▮▮ I = 1.02	*INFJ* N = 441 % = 7.37 ▮▮▮▮▮▮▮ I = 2.45***	*INTJ* N = 409 % = 6.84 ▮▮▮▮▮▮▮ I = 2.99***	JUDGING INTROVERTS
ISTP N = 141 % = 2.36 ▮▮ I = .61***	*ISFP* N = 177 % = 2.96 ▮▮▮ I = .38***	*INFP* N = 624 % = 10.43 ▮▮▮▮▮▮▮▮▮▮ I = 1.12*	*INTP* N = 380 % = 6.35 ▮▮▮▮▮▮ I = 1.58***	PERCEPTIVE INTROVERTS
ESTP N = 102 % = 1.71 ▮▮ I = .39***	*ESFP* N = 169 % = 2.83 ▮▮▮ I = .29***	*ENFP* N = 637 % = 10.65 ▮▮▮▮▮▮▮▮▮▮▮ I = .83***	*ENTP* N = 270 % = 4.51 ▮▮▮▮▮ I = .99	PERCEPTIVE EXTRAVERTS
ESTJ N = 405 % = 6.77 ▮▮▮▮▮▮▮ I = .96	*ESFJ* N = 408 % = 6.82 ▮▮▮▮▮▮▮ I = .63***	*ENFJ* N = 494 % = 8.26 ▮▮▮▮▮▮▮▮ I = 1.97***	*ENTJ* N = 386 % = 6.45 ▮▮▮▮▮▮ I = 2.34***	JUDGING EXTRAVERTS

E	2871	47.99	.85***
I	3111	52.01	1.19***
S	2341	39.13	.69***
N	3641	60.87	1.41***
T	2584	43.20	1.23***
F	3398	56.80	.88***
J	3482	58.21	1.34***
P	2500	41.79	.74***
IJ	1789	29.91	1.59***
IP	1322	22.10	.88***
EP	1178	19.69	.62***
EJ	1693	28.30	1.14***
ST	1139	19.04	.89***
SF	1202	20.09	.57***
NF	2196	36.71	1.25***
NT	1445	24.16	1.77***
SJ	1752	29.29	.94*
SP	589	9.85	.38***
NP	1911	31.95	1.04
NJ	1730	28.92	2.36***
TJ	1691	28.27	1.55***
TP	893	14.93	.89**
FP	1607	26.86	.68***
FJ	1791	29.94	1.18***
IN	1854	30.99	1.66***
EN	1787	29.87	1.23***
IS	1257	21.01	.84***
ES	1084	18.12	.57***

NOTES ▮ = 1% of sample

I or Index = selection ratio (% of medical students ÷ % in CAPT sample of 6738 high school students). Ratios greater than 1.00 indicate more of the type in medical school than expected, based on the numbers of the type in a high school population.

* $p < .05$, ** $p < .01$ and *** $p < .001$ (based on Chi Square statistic).

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CAPT 8-77

Table 10
Comparison of Myers Longitudinal Medical Study with Present Day Medical Students

Myers-Briggs Type Indicator **Type Table**

MYERS LONGITUDINAL MEDICAL STUDY

TOTAL SAMPLE OF MEDICAL STUDENTS FROM 45 SCHOOLS

N = 5355

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N = 321 % = 5.99 ▌▌▌▌▌▌ I= .87*	*ISFJ* N = 246 % = 4.59 ▌▌▌▌▌ I= .67***	*INFJ* N = 209 % = 3.90 ▌▌▌▌ I= 2.18***	*INTJ* N = 339 % = 6.33 ▌▌▌▌▌▌ I= 2.42***	INTROVERTS JUDGING
ISTP N = 311 % = 5.81 ▌▌▌▌▌▌ I= 1.40***	*ISFP* N = 266 % = 4.97 ▌▌▌▌▌ I= .92	*INFP* N = 389 % = 7.26 ▌▌▌▌▌▌▌ I= 1.87***	*INTP* N = 523 % = 9.77 ▌▌▌▌▌▌▌▌▌▌ I= 2.76***	INTROVERTS PERCEPTIVE
ESTP N = 278 % = 5.19 ▌▌▌▌▌ I= .80**	*ESFP* N = 300 % = 5.60 ▌▌▌▌▌▌ I= .60***	*ENFP* N = 429 % = 8.01 ▌▌▌▌▌▌▌▌ I= 1.05	*ENTP* N = 362 % = 6.76 ▌▌▌▌▌▌▌ I= 1.38***	EXTRAVERTS PERCEPTIVE
ESTJ N = 428 % = 7.99 ▌▌▌▌▌▌▌▌ I= .53***	*ESFJ* N = 360 % = 6.72 ▌▌▌▌▌▌▌ I= .48***	*ENFJ* N = 266 % = 4.97 ▌▌▌▌▌ I= 1.38***	*ENTJ* N = 328 % = 6.13 ▌▌▌▌▌▌ I= 1.56***	EXTRAVERTS JUDGING

E	2751	51.37	.79***
I	2604	48.63	1.38***
S	2510	46.87	.69***
N	2845	53.13	1.67***
T	2890	53.97	1.13***
F	2465	46.03	.88***
J	2497	46.63	.85***
P	2858	53.37	1.18***
IJ	1115	20.82	1.15***
IP	1489	27.81	1.64***
EP	1369	25.56	.90***
EJ	1382	25.81	.71***
ST	1338	24.99	.77***
SF	1172	21.89	.62***
NF	1293	24.15	1.43***
NT	1552	28.98	1.93***
SJ	1355	25.30	.59***
SP	1155	21.57	.85***
NP	1703	31.80	1.60***
NJ	1142	21.33	1.79***
TJ	1416	26.44	.93**
TP	1474	27.53	1.44***
FP	1384	25.84	.98
FJ	1081	20.19	.77***
IN	1460	27.26	2.30***
EN	1385	25.86	1.29***
IS	1144	21.36	.92**
ES	1366	25.51	.57***

NOTES ▌ = 1% of sample

I or Index = Selection Ratio (% of medical students ÷ % in Myers' sample of 9320 high school students). Ratios greater than 1.00 indicate more of the type in medical school than expected, based on the numbers of the type in a high school population.

* p <.05, ** p <.01 and *** p <.001 (based on Chi Square statistic).

Investigator: Isabel Briggs Myers

Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF

MEDICAL STUDENTS TESTED IN THE 1960's AND 1970's

N = 5982

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N = 491 % = 8.21 ▌▌▌▌▌▌▌▌ I= 1.34***	*ISFJ* N = 448 % = 7.49 ▌▌▌▌▌▌▌ I= 1.02	*INFJ* N = 441 % = 7.37 ▌▌▌▌▌▌▌ I= 2.45***	*INTJ* N = 409 % = 6.84 ▌▌▌▌▌▌▌ I= 2.99***	INTROVERTS JUDGING
ISTP N = 141 % = 2.36 ▌▌ I= .61***	*ISFP* N = 177 % = 2.96 ▌▌▌ I= .38***	*INFP* N = 624 % = 10.43 ▌▌▌▌▌▌▌▌▌▌ I= 1.12*	*INTP* N = 380 % = 6.35 ▌▌▌▌▌▌ I= 1.58***	INTROVERTS PERCEPTIVE
ESTP N = 102 % = 1.71 ▌▌ I= .39***	*ESFP* N = 169 % = 2.83 ▌▌▌ I= .29***	*ENFP* N = 637 % = 10.65 ▌▌▌▌▌▌▌▌▌▌▌ I= .83***	*ENTP* N = 270 % = 4.51 ▌▌▌▌▌ I= .99	EXTRAVERTS PERCEPTIVE
ESTJ N = 405 % = 6.77 ▌▌▌▌▌▌▌ I= .96	*ESFJ* N = 408 % = 6.82 ▌▌▌▌▌▌▌ I= .63***	*ENFJ* N = 494 % = 8.26 ▌▌▌▌▌▌▌▌ I= 1.97***	*ENTJ* N = 386 % = 6.45 ▌▌▌▌▌▌ I= 2.34***	EXTRAVERTS JUDGING

E	2871	47.99	.85***
I	3111	52.01	1.19***
S	2341	39.13	.69***
N	3641	60.87	1.41***
T	2584	43.20	1.23***
F	3398	56.80	.88***
J	3482	58.21	1.34***
P	2500	41.79	.74***
IJ	1789	29.91	1.59***
IP	1322	22.10	.88***
EP	1178	19.69	.62***
EJ	1693	28.30	1.14***
ST	1139	19.04	.89***
SF	1202	20.09	.57***
NF	2196	36.71	1.25***
NT	1445	24.16	1.77***
SJ	1752	29.29	.94*
SP	589	9.85	.38***
NP	1911	31.95	1.04
NJ	1730	28.92	2.36***
TJ	1691	28.27	1.55***
TP	893	14.93	.89**
FP	1607	26.86	.68***
FJ	1791	29.94	1.18***
IN	1854	30.99	1.66***
EN	1787	29.87	1.23***
IS	1257	21.01	.84***
ES	1084	18.12	.57***

NOTES ▌ = 1% of sample
I or Index = selection ratio (% of medical students ÷ % in CAPT sample of 6728 high school students). Ratios greater than 1.00 indicate more of the type in medical school than expected, based on the numbers of the type in a high school population.

* p <.05, ** p <.01 and *** p <.001 (based on Chi Square statistic).

Prepared as a part of the final report for "Application of the Myers-Briggs Type Indicator to Medicine and Other Health Professions," Contract No. 231-76-0051 for Health Resources Administration, HEW.

Table 11
Comparison of Medical Students and Practitioners in Medicine

Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF STUDENTS IN
MEDICINE
N = 6344

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING		
ISTJ N = 516 % = 8.13 ▮▮▮▮▮▮▮▮	**ISFJ** N = 474 % = 7.47 ▮▮▮▮▮▮▮	**INFJ** N = 466 % = 7.35 ▮▮▮▮▮▮▮	**INTJ** N = 430 % = 6.78 ▮▮▮▮▮▮▮	JUDGING	INTROVERTS
ISTP N = 143 % = 2.25 ▮▮	**ISFP** N = 187 % = 2.95 ▮▮▮	**INFP** N = 646 % = 10.18 ▮▮▮▮▮▮▮▮▮▮	**INTP** N = 393 % = 6.19 ▮▮▮▮▮▮	PERCEPTIVE	
ESTP N = 109 % = 1.72 ▮▮	**ESFP** N = 176 % = 2.77 ▮▮▮	**ENFP** N = 682 % = 10.75 ▮▮▮▮▮▮▮▮▮▮▮	**ENTP** N = 280 % = 4.41 ▮▮▮▮	PERCEPTIVE	EXTRAVERTS
ESTJ N = 449 % = 7.08 ▮▮▮▮▮▮▮	**ESFJ** N = 446 % = 7.03 ▮▮▮▮▮▮▮	**ENFJ** N = 526 % = 8.29 ▮▮▮▮▮▮▮▮	**ENTJ** N = 421 % = 6.64 ▮▮▮▮▮▮▮	JUDGING	

	N	Percent
E	3089	48.69
I	3255	51.31
S	2500	39.41
N	3844	60.59
T	2741	43.21
F	3603	56.79
J	3728	58.76
P	2616	41.24
IJ	1886	29.73
IP	1369	21.58
EP	1247	19.66
EJ	1842	29.04
ST	1217	19.18
SF	1283	20.22
NF	2320	36.57
NT	1524	24.02
SJ	1885	29.71
SP	615	9.69
NP	2001	31.54
NJ	1843	29.05
TJ	1816	28.63
TP	925	14.58
FP	1691	26.66
FJ	1912	30.14
IN	1935	30.50
EN	1909	30.09
IS	1320	20.81
ES	1180	18.60

NOTES ▮ = 1% of sample

Table includes 5982 medical students and 362 pre-medical students.

Prepared as a part of the final report for "Application of the Myers-Briggs Type Indicator to Medicine and Other Health Professions," Contract No. 231-76-0051 for Health Resources Administration, HEW.

Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF PRACTITIONERS IN
MEDICINE
N = 1881

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING		
ISTJ N = 267 % = 14.19 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮	**ISFJ** N = 186 % = 9.89 ▮▮▮▮▮▮▮▮▮▮	**INFJ** N = 152 % = 8.08 ▮▮▮▮▮▮▮▮	**INTJ** N = 131 % = 6.96 ▮▮▮▮▮▮▮	JUDGING	INTROVERTS
ISTP N = 54 % = 2.87 ▮▮▮	**ISFP** N = 45 % = 2.39 ▮▮	**INFP** N = 172 % = 9.14 ▮▮▮▮▮▮▮▮▮	**INTP** N = 93 % = 4.94 ▮▮▮▮▮	PERCEPTIVE	
ESTP N = 31 % = 1.65 ▮▮	**ESFP** N = 35 % = 1.86 ▮▮	**ENFP** N = 148 % = 7.87 ▮▮▮▮▮▮▮▮	**ENTP** N = 62 % = 3.30 ▮▮▮	PERCEPTIVE	EXTRAVERTS
ESTJ N = 148 % = 7.87 ▮▮▮▮▮▮▮▮	**ESFJ** N = 116 % = 6.17 ▮▮▮▮▮▮	**ENFJ** N = 119 % = 6.33 ▮▮▮▮▮▮	**ENTJ** N = 122 % = 6.49 ▮▮▮▮▮▮	JUDGING	

	N	Percent
E	781	41.52
I	1100	58.48
S	882	46.89
N	999	53.11
T	908	48.27
F	973	51.73
J	1241	65.98
P	640	34.02
IJ	736	39.13
IP	364	19.35
EP	276	14.67
EJ	505	26.85
ST	500	26.58
SF	382	20.31
NF	591	31.42
NT	408	21.69
SJ	717	38.12
SP	165	8.77
NP	475	25.25
NJ	524	27.86
TJ	668	35.51
TP	240	12.76
FP	400	21.27
FJ	573	30.46
IN	548	29.13
EN	451	23.98
IS	552	29.35
ES	330	17.54

NOTES ▮ = 1% of sample

Table includes 1881 medical practitioners.

Prepared as a part of the final report for "Application of the Myers-Briggs Type Indicator to Medicine and Other Health Professions," Contract No. 231-76-0051 for Health Resources Administration, HEW.

When all 8225 pre-medical students, medical students and physicians are compared to the composite sample of CAPT college and graduate students, the medical sample has significantly more introverts (1.12***), intuitive types (1.19***), thinking types (1.22*** , though feeling types are in the majority, with 56%) and judging types (1.12***).

It is clear, therefore, that compared to the populations from which they are drawn, medicine takes all 16 types, but proportionately more introverts, intuitive types, thinking types, and judging types.

4. Pre-medical Students Compared to Medical Students

Of the composite of 6344 Students in Medicine, 382 are pre-medical and 5982 are medical students. If the 6344 medical student composite is taken as the expected distribution for both medical and pre-medical students, the pre-medical students differ from expectation in the following ways: They have significantly more extraverts (1.24***) primarily due to greater numbers of the E--J types. The pre-medical students have the expected numbers of intuitives and thinking types, but have significantly more judging types than medical students (1.16***), again because of the E--J types. The pre-medical students have fewer of the academic IN types (.73***) and more of the pragmatic E-S- group (1.43***). It is important to note that the -S-P types who are so much less frequent in present-day medical students, are not significantly different in pre-medical and medical students — in fact, the trend is toward having proportionately fewer of these types than in medical school (ratio .74).

Our sample of pre-medical students is not large enough to be stable, but if future findings have similar distributions, they will confirm the data above, i.e., medical schools admit proportionately more of the introverts and intuitives, and proportionately fewer extraverts and sensing types.

If the number of E--J types in pre-medical students continues to exceed that of medical students, a closer look at admission of these students should be useful. Myers found that the E--J types were both more likely to drop out of medical school, and, if they stayed in to graduate, were more likely to rank higher in their class than would have been predicted from their MCAT scores. These are a very confident group of people, and it takes considerable sophistication in selection committees to choose those E--J applicants whose assured manner is warranted by solid achievement.

The fact that -S-P types are few in pre-medical students as well as in medical school suggests that they may be discouraged from considering medicine early, assuming that they will not be able to meet the competition. If this should be the case, then the drop in numbers in these types cannot be laid to the admissions committees in medical schools. It may be the special task of the pre-medical advisors to seek them out.

5. Selection from Medical School Applicants

Data were shared with the project for applicants and admissions for five classes in three southeastern schools. Taking the applicants as the base population, students were compared with the base to see if the types in the class were representative of the applicants.

The first class of one school when compared to applicants has more introverts, particularly introverts with sensing, but otherwise is typical of the applicant pool. The psychologically-minded NFP types were more often placed in the unacceptable applicant category, and the science-minded NT types were more likely to be classified as acceptable.

The next year in the same school, proportionately more intuitive types were admitted, especially the extraverted EN-- types. The IS-- group favored the year before was more likely to be classified as unacceptable the following year. The intuitive types were more likely to be rated acceptable, and there was not the difference between the -NF- and -NT- intuitive types which appeared the previous year.

In a second school, introverts (especially the I-FJ types) were more likely to be admitted, and the E--J types to be rejected. As with the comparison of premedical students and medical students, this school took proportionately more academic IN-- types and fewer of the pragmatic ES-- types.

In the first year of study at the third school, there were no significant differences between the distributions of the applicants and the students admitted. The following year, significantly more extraverts were chosen, especially the innovative EN-- types.

In none of the five analyses were there significant differences in the -S-P types. The selection ratios for the 5 classes were 1.30, .99, 1.07, 1.29 and .61. Only 144 applicants of the total 1867 applicants from all five classes (7.7%) were -S-P types. This confirms the earlier possibility that these types are not applying in great numbers.

There appear to be enough school-to-school and class-to-class differences in selection of students from applicant pools, that more intensive study will be needed to see if there are stable patterns, or if the MBTI distributions are best used to observe changes. There is a practical problem in obtaining applicant data. In the third school, applicants were tested when they came for interviews--surely one of the least appropriate times to collect such data. (For this reason, the study was discontinued.) One incidental finding from this school is that students who had all their papers in early had a better chance of being admitted, and there was a significant correlation between the submission date and the JP continuous score. The organized judging types were more likely to get their applications completed sooner.

In future studies comparing students with applicants, the factor of actual excellence should be taken into account. It would be helpful to compare applicants and students of each type for scores on academic measures and for personality test scores (such as the 16 PF Emotional Stability Factor C). The critical research question is whether the best candidates of each type are being selected.

6. Comparison of Medical Students and SVIB Physician Interest Scores

The type distributions of Health Related Professions students scoring high on the SVIB Physician scale are strikingly similar to actual type distributions of medical students. Proportionately more IN-- types and fewer ES-- types had high Physician interest scores. Feeling types were in the majority (60% for females, 52% for males) but, as with medical students, there were relatively fewer feeling types compared to the total student sample. The -S-P types made up only 10% of the female sample and 15% of the male sample.

7. Sex Differences in Pre-Medical and Medical Students

Three student samples exist for which sex differences are known. Of the 382 pre-medical students, sex is known for 66 females and 232 males. Of the Myers Longitudinal Medical Sample, sex is known for 298 females and 5057 males. And of the current medical student sample, sex is known for 574 females and 2450 males. The percentages of males and females in the four MBTI preferences, and in the IN--, ES--, E--J and -S-P groups of special interest are shown in Table 12.

Table 12
Sex Differences in Medical Student Populations

MBTI Preference	Pre-Medical		Myers' Students		Current Students	
	Males 232	Females 66	Males 5057	Females 298	Males 2450	Females 574
Extravert	56%	74%	51%	52%	46%	49%
Introvert	44%	26%	49%	48%	54%	51%
Sensing	47%	42%	48%	33%	39%	34%
Intuitive	53%	58%	52%	67%	61%	66%
Thinking	46%	39%	55%	44%	45%	39%
Feeling	54%	61%	45%	56%	55%	61%
Judging	68%	61%	46%	60%	58%	58%
Perceptive	32%	39%	54%	40%	42%	42%
IN--	25%	12%	27%	33%	32%	32%
ES--	28%	29%	26%	18%	17%	16%
E--J	41%	42%	26%	30%	27%	27%
-S-P	8%	9%	22%	7%	10%	7%

Table 13
Type Distributions of Students with High Scores on SVIB Physician Scale

Myers-Briggs Type Indicator

Type Table

UNIVERSITY STUDENTS IN HEALTH RELATED PROFESSIONS COURSE

HIGH SCORE ON SVIB PHYSICIAN

N = 77 FEMALES

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING		
ISTJ N= 10 % = 12.99 ▮▮▮▮▮▮▮▮▮▮▮▮▮	ISFJ N= 5 % = 6.49 ▮▮▮▮▮▮	INFJ N= 8 % = 10.39 ▮▮▮▮▮▮▮▮▮▮	INTJ N= 4 % = 5.19 ▮▮▮▮▮	JUDGING	INTROVERTS
ISTP N= 0 % = 0.00	ISFP N= 4 % = 5.19 ▮▮▮▮▮	INFP N= 5 % = 6.49 ▮▮▮▮▮▮	INTP N= 1 % = 1.30 ▮	PERCEPTIVE	
ESTP N= 3 % = 3.90 ▮▮▮▮	ESFP N= 1 % = 1.30 ▮	ENFP N= 11 % = 14.29 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮	ENTP N= 4 % = 5.19 ▮▮▮▮▮	PERCEPTIVE	EXTRAVERTS
ESTJ N= 6 % = 7.79 ▮▮▮▮▮▮▮▮	ESFJ N= 8 % = 10.39 ▮▮▮▮▮▮▮▮▮▮	ENFJ N= 4 % = 5.19 ▮▮▮▮▮	ENTJ N= 3 % = 3.90 ▮▮▮▮	JUDGING	

	N	PERCENT	RATIO
E	40	51.95	0.81*
I	37	48.05	1.33*
S	37	48.05	0.87
N	40	51.95	1.17
T	31	40.26	1.49**
F	46	59.74	0.82**
J	48	62.34	1.03
P	29	37.66	0.95
IJ	27	35.06	1.56**
IP	10	12.99	0.95
EP	19	24.68	0.95
EJ	21	27.27	0.72*
ST	19	24.68	1.30
SF	18	23.38	0.64**
NF	28	36.36	1.00
NT	12	15.58	1.91**
SJ	29	37.66	0.93
SP	8	10.39	0.69
NP	21	27.27	1.11
NJ	19	24.68	1.24
TJ	23	29.87	1.40*
TP	8	10.39	1.83
FP	21	27.27	0.80
FJ	25	32.47	0.83
IN	18	23.38	1.62*
EN	22	28.57	0.95
IS	19	24.68	1.13
ES	19	23.38	0.69*

NOTES: ▮ = 1% of sample
Sample includes 77 females scoring high (A = T score 48+) on the Physician Scale of the Strong Vocational Interest Blank T398. They were among 528 females enrolled in a course entitled Introduction to the Health Related Professions at the University of Florida between 1973 and 1976. Data collected by M. H. McCaulley & course faculty.
Ratio = % with High Score : % of all females.
For all tables in this report, * $p < .05$, ** $p < .01$ and *** $p < .001$.

Myers-Briggs Type Indicator

Type Table

UNIVERSITY STUDENTS IN HEALTH RELATED PROFESSIONS COURSE

HIGH SCORE ON SVIB PHYSICIAN

N = 60 MALES

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING		
ISTJ N= 5 % = 8.33 ▮▮▮▮▮▮▮▮	ISFJ N= 3 % = 5.00 ▮▮▮▮▮	INFJ N= 3 % = 5.00 ▮▮▮▮▮	INTJ N= 4 % = 6.67 ▮▮▮▮▮▮▮	JUDGING	INTROVERTS
ISTP N= 2 % = 3.33 ▮▮▮	ISFP N= 4 % = 6.67 ▮▮▮▮▮▮▮	INFP N= 5 % = 8.33 ▮▮▮▮▮▮▮▮	INTP N= 3 % = 5.00 ▮▮▮▮▮	PERCEPTIVE	
ESTP N= 1 % = 1.67 ▮▮	ESFP N= 2 % = 3.33 ▮▮▮	ENFP N= 6 % = 10.00 ▮▮▮▮▮▮▮▮▮▮	ENTP N= 1 % = 1.67 ▮▮	PERCEPTIVE	EXTRAVERTS
ESTJ N= 8 % = 13.33 ▮▮▮▮▮▮▮▮▮▮▮▮▮	ESFJ N= 3 % = 5.00 ▮▮▮▮▮	ENFJ N= 5 % = 8.33 ▮▮▮▮▮▮▮▮	ENTJ N= 5 % = 8.33 ▮▮▮▮▮▮▮▮	JUDGING	

	N	PERCENT	RATIO
E	31	51.67	0.92
I	29	48.33	1.10
S	28	46.67	0.79**
N	32	53.33	1.30**
T	29	48.33	1.14
F	31	51.67	0.90
J	36	60.00	0.91
P	24	40.00	1.18
IJ	15	25.00	0.91
IP	14	23.33	1.41*
EP	10	16.67	0.96
EJ	21	35.00	0.91
ST	16	26.67	1.03
SF	12	20.00	0.60**
NF	19	31.67	1.30
NT	13	21.67	1.31
SJ	19	31.67	0.76*
SP	9	15.00	0.87
NP	15	25.00	1.51*
NJ	17	28.33	1.16
TJ	22	36.67	1.16
TP	7	11.67	1.06
FP	17	28.33	1.24
FJ	14	23.33	0.67*
IN	15	25.00	1.51*
EN	17	28.33	1.16
IS	14	23.33	0.85
ES	14	23.33	0.74

NOTES: ▮ = 1% of sample
Sample includes 60 males scoring high (A = T score 48+) on the Physician Scale of the Strong Vocational Interest Blank T399. They were among 127 males enrolled in a course entitled Introduction to the Health Related Professions at the University of Florida between 1973 and 1976. Data collected by M. H. McCaulley & course faculty.
Ratio = % with High Score : % of all males.
For all tables in this report, * $p < .05$, ** $p < .01$ and *** $p < .001$.

> There are more feeling types in female samples as would be expected from the sex difference on the TF scale. There are more intuitive types in female samples. This fact may be due to the tendency of intuitive types to pioneer in new areas, or to the advantage of the intuitive types on the MCAT. With the exception of the small sample of female pre-medical students, there are few sex differences in the proportion of extraverts and introverts.
>
> In the Myers' sample, the male majority group had similar numbers of the academic IN-- types and pragmatic ES-- types; the minority female group had significantly more IN-- types and fewer ES-- types, in almost the same proportions as in both males and females of today's samples (where competition is very high for both sexes).
>
> Competition also probably accounts for the drop in -S-P types in both pre-medical and medical samples for males and females. They have dropped to the level of the females in Myers's sample.
>
> The E--J types appear to be the most likely to fall by the wayside, with no sex difference in either pre-medical or student groups.
>
> In short, most of the sex differences can be explained by the fact that I, N and J have an advantage when competition is high for selection to medical school; as admissions become more competitive for all students, the percentages of I, N and J in both sexes draw closer together.

In summary, medicine is still attracting all 16 types, but not in the same proportions as in the 1950's. In the Myers sample, minority groups (females and blacks) had relatively more of the types likely to have impressive academic credentials—introverts, intuitives and judging types. In today's competitive period, these types have increased in male groups as well.

There are proportionately fewer of the -S-P types in today's students. These practical, relatively easy-going types, often do not have impressive credentials. Myers found them to have an interest in direct patient care, so the drop in their numbers may have practical significance. The fault does not appear to lie with medical admissions, but with a discouragement at earlier levels, since there are significantly fewer -S-P types in the pre-medical group.

Schools differ, based on a preliminary look at five classes in three southeastern medical schools, in the distributions of types they select from year to year and from one school to another. To establish existence of consistent patterns will require more research which includes some estimates of variability in actual levels of excellence as well as differences in MBTI types.

While feeling types are in the majority in students of both sexes, there are relatively more thinking types in medicine than in high school and college.

C. Interest in Other Health Professions

1. Dentistry and Allied Fields

The 1186 students in Dentistry and Allied Fields include 1046 dental students, 77 dental hygiene students, 58 dental assistant students, and 5 pre-dentistry students.

To laymen, dentistry requires sustained concentration (I), detail and precision (S), technical skill with materials and equipment (ST) and system and organization (J). Therefore we expected relatively more of these to be attracted to dentistry. Fields such as preventive dentistry, community dentistry, dental education and the like might attract people with different preferences from these.

The composite sample has 54% extraverts, 60% sensing types, 53% feeling types and 68% judging types.

Dental students are 53% extraverts, 59% sensing, 50% thinking, and 69% judging.

Dental hygiene students are 55% extraverts, 70% sensing, 81% feeling, and 62% judging.

Dental assistant students are 64% extraverts, 71% sensing, 81% feeling, and 57% judging.

a. Comparisons of Dentistry Students with High School Students

When the composite of all 1186 dentistry students is compared to the distribution of 6738 high school juniors and seniors in the CAPT data bank, dentistry has significantly more sensing types (1.05*), thinking types (1.33***) and judging types (1.56***). The judging preference carries over to EI, so that there are more I--J types (1.63***) and E--J types (1.50***) and fewer I--P types .62***) and E--P types (.53***).

The -SF- "patient-care types are the most frequent of the four columns (32%) but still are relatively less frequent than in the high school students (.89**). As would be expected from the main effects, there are significantly more -S-J types (1.53***) and fewer -S-P types (.48***); also significantly more -N-J types (1.63***) and fewer -N-P's (.65***). Five MBTI types are significantly attracted to dentistry—ISTJ (1.84***), ISFJ (1.45***), ESTJ 1.85***), ESFJ (1.19*), INTJ (2.18***) and ENTJ (2.14***). Six types are significantly less likely to enter dentistry—ISTP (.56**), ISFP (.54***), ESTP (.44***), ESFP (.41***), INFP (.63***) and ENFP (.54***). A significant attraction of dentistry to IS-- types, therefore (1.13*) contains the IS-J types significantly more attracted, and the IS-P types significantly staying out of the field.

Table 14
Comparison of Students and Practitioners in Dentistry and Allied Fields

Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF STUDENTS IN
DENTISTRY AND ALLIED FIELDS
N = 1186

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N = 134 % = 11.30	ISFJ N = 126 % = 10.62	INFJ N = 44 % = 3.71	INTJ N = 59 % = 4.97	JUDGING INTROVERTS
ISTP N = 26 % = 2.19	ISFP N = 49 % = 4.13	INFP N = 70 % = 5.90	INTP N = 39 % = 3.29	PERCEPTIVE INTROVERTS
ESTP N = 23 % = 1.94	ESFP N = 47 % = 3.96	ENFP N = 83 % = 7.00	ENTP N = 46 % = 3.88	PERCEPTIVE EXTRAVERTS
ESTJ N = 155 % = 13.07	ESFJ N = 152 % = 12.82	ENFJ N = 63 % = 5.31	ENTJ N = 70 % = 5.90	JUDGING EXTRAVERTS

	N	Percent
E	639	53.88
I	547	46.12
S	712	60.03
N	474	39.97
T	552	46.54
F	634	53.46
J	803	67.71
P	383	32.29
IJ	363	30.61
IP	184	15.51
EP	199	16.78
EJ	440	37.10
ST	338	28.50
SF	374	31.53
NF	260	21.92
NT	214	18.04
SJ	567	47.81
SP	145	12.23
NP	238	20.07
NJ	236	19.90
TJ	418	35.24
TP	134	11.30
FP	249	20.99
FJ	385	32.46
IN	212	17.88
EN	262	22.09
IS	335	28.25
ES	377	31.79

NOTES ▌ = 1% of sample

Table includes 1081 dental students, 77 dental hygiene students and 28 dental assistant students.

Prepared as a part of the final report for "Application of the Myers-Briggs Type Indicator to Medicine and Other Health Professions," Contract No. 231-76-0051 for Health Resources Administration, HEW.

Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF PRACTITIONERS IN
DENTISTRY AND ALLIED FIELDS
N = 96

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N = 8 % = 8.33	ISFJ N = 12 % = 12.50	INFJ N = 4 % = 4.17	INTJ N = 7 % = 7.29	JUDGING INTROVERTS
ISTP N = 2 % = 2.08	ISFP N = 4 % = 4.17	INFP N = 4 % = 4.17	INTP N = 4 % = 4.17	PERCEPTIVE INTROVERTS
ESTP N = 0 % = 0.00	ESFP N = 7 % = 7.29	ENFP N = 9 % = 9.38	ENTP N = 2 % = 2.08	PERCEPTIVE EXTRAVERTS
ESTJ N = 11 % = 11.46	ESFJ N = 10 % = 10.42	ENFJ N = 6 % = 6.25	ENTJ N = 6 % = 6.25	JUDGING EXTRAVERTS

	N	Percent
E	51	53.13
I	45	46.88
S	54	56.25
N	42	43.75
T	40	41.67
F	56	58.33
J	64	66.67
P	32	33.33
IJ	31	32.29
IP	14	14.58
EP	18	18.75
EJ	33	34.38
ST	21	21.88
SF	33	34.38
NF	23	23.96
NT	19	19.79
SJ	41	42.71
SP	13	13.54
NP	19	19.79
NJ	23	23.96
TJ	32	33.33
TP	8	8.33
FP	24	25.00
FJ	32	33.33
IN	19	19.79
EN	23	23.96
IS	26	27.08
ES	28	29.17

NOTES ▌ = 1% of sample

Table includes 52 dentists, 8 dental hygienists and 36 dental assistants.

Prepared as a part of the final report for "Application of the Myers-Briggs Type Indicator to Medicine and Other Health Professions," Contract No. 231-76-0051 for Health Resources Administration, HEW.

(1) Dental Students. Because dental students make up most of the composite, most of the above findings apply. Compared to high school students, dental students have more thinking and judging types, more of the toughminded --TJ types, and concerned --FJ types, more -N-J and -S-J types, and more IS-- types. Types significantly attracted to dentistry are ISTJ, ISFJ, ESTJ, INTJ and ENTJ. Types significantly less likely to be dental students are ISTP, ISFP, INFP, ESTP, ESFP and ENFP.

The types in high school most attracted to dentistry are the students who value system and order (J) and who enjoy skills with materials which work on logical principles (T).

(2) Dental Hygiene Students. When compared to female high school students, dental hygiene students have significantly more sensing (1.27**) and judging (1.49***) types. There are more I--J types (1.89***), patient-oriented -SF- types (1.30*), systematic -S-J types (1.69***) and thoughtful and realistic IS-- types (1.44*). One type, ISFJ, accounted for 23% of the entire sample. ISFJ is a particularly thorough and dependable type.

(3) Dental Assistant Students. The dental assistant students are similar to the dental hygiene students. They too have more sensing (1.28*) and judging (1.36*) types, with more -SF- (1.32*), and more -S-J (1.51*) types. In contrast to the hygienists, they have more E--J (1.46*) types, suggesting that these students may wish quicker results than their more thoughtful colleagues.

b. Comparison of Dentistry Students with College Students

When the composite of students in dentistry and allied fields is compared to the CAPT data bank distribution of college freshmen, dentistry has about the expected number of extraverts and introverts, with significantly more sensing (1.08**), thinking (1.43***) and judging (1.28***) types. All four of the tough-minded --TJ types are attracted to dentistry, and all four of the gentle --FP types are significantly avoiding dentistry.

c. Comparison of Three Dentistry Student Groups

Dental students must complete post-college training and, for this reason alone, one would predict more introverts and intuitive types in dental students than in the hygienists and assistants. Since dental students are mainly males, and the hygienists and assistants mainly female, one would predict more thinking types in the student group.

Compared to the composite, dental students have more academic IN-- types (1.06**) and fewer pragmatic ES-- types (.97*). They also have more thinking types (1.08***). Dental hygiene and dental assistant students have more feeling types (1.51***, 1.52***).

d. SVIB Interest in Dentistry Compared to MBTI Preferences

In the *Manual* Myers reported correlations of MBTI continuous scores and the SVIB Dentist scale. Interest in dentistry was associated with introversion (.24**) and intuition (.19**). For the female students in health related professions at the University of Florida, the correlations associated high scores on the Dentist scale with introversion (.30***), thinking (-.28***) and judging (-.15***). For the males in the class, the association was with introversion (.25**) and thinking (-.19*).

Too few students had high scores on Dentist to make it possible to compare their type distribution to that of actual dental students.

The SVIB Dental Assistant scale was associated with sensing (-.48***) and judging (-.30***). The type table for the 109 health related professions females that scored high on SVIB Dental Assistant looks like a more extreme version of the distribution of our small sample of students (extraverts on SVIB 68% compared to 64% in students, sensing types 84% compared to 71%, feeling types 67% compared to 81% and judging types 76% compared to 57%). The patient-care -SF- types are in the majority in the SVIB (54%) and actual students (57%). The four -S-J types account for 68% of the SVIB sample and 47% of the students.

It is probable that with larger samples the correspondence of the SVIB scales with actual distributions will be even closer.

e. Sex Differences in Dental Students

Of the 1046 dental students, the male-female distribution is available for 47 females and 238 males. Like medicine, there are more feeling types in the females (68% for females, 52% for males). Unlike medicine, female dental students have significantly more of the patient-care -SF- types than their male counterparts (1.77**). There are more similarities than differences in the male and female dental student samples.

In summary, dentistry at all levels attracts more sensing and judging types. As expected in any health care field, feeling types outnumber thinking types, but in the male dental students there are relatively more thinking types than are found in high school or college samples. The dental students have relatively more of the types interested in the technical aspects of dentistry, and the hygienists and assistants have relatively more of the types interested in specific patient care activities.

From these samples, dentistry has a particular appeal to people who like carrying out activities with a minimum of requirement for theory and interpretation, and who like to structure their lives in systematic and organized patterns. These types are relatively conservative, and learn better from experience than from library research.

Table 15
Type Distributions of Students Who Scored High on SVIB Dental Assistant and Licensed Practical Nurse Scales

Myers-Briggs Type Indicator

Type Table

UNIVERSITY STUDENTS IN HEALTH RELATED PROFESSIONS COURSE

HIGH SCORE ON SVIB DENTAL ASSISTANT

N = 109 FEMALES

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N = 13 % = 11.93 ▮▮▮▮▮▮▮▮▮▮▮▮	ISFJ N = 12 % = 11.01 ▮▮▮▮▮▮▮▮▮▮▮	INFJ N = 2 % = 1.83 ▮▮	INTJ N = 0 % = 0.0	JUDGING INTROVERTS
ISTP N = 0 % = 0.0	ISFP N = 4 % = 3.67 ▮▮▮▮	INFP N = 4 % = 3.67 ▮▮▮▮	INTP N = 0 % = 0.0	PERCEPTIVE INTROVERTS
ESTP N = 5 % = 4.59 ▮▮▮▮▮	ESFP N = 9 % = 8.26 ▮▮▮▮▮▮▮▮	ENFP N = 2 % = 1.83 ▮▮	ENTP N = 2 % = 1.83 ▮▮	PERCEPTIVE EXTRAVERTS
ESTJ N = 15 % = 13.76 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮	ESFJ N = 34 % = 31.19 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮	ENFJ N = 6 % = 5.50 ▮▮▮▮▮▮	ENTJ N = 1 % = 0.92 ▮	JUDGING EXTRAVERTS

	N	PERCENT	RATIO
E	74	67.89	1.06
I	35	32.11	0.89
S	92	84.40	1.52***
N	17	15.60	0.35***
T	36	33.03	1.22
F	73	66.97	0.92
J	83	76.15	1.26***
P	26	23.85	0.60***
IJ	27	24.77	1.10
IP	8	7.34	0.54*
EP	18	16.51	0.64*
EJ	56	51.38	1.36**
ST	33	30.28	1.60***
SF	59	54.13	1.48***
NF	14	12.84	0.35***
NT	3	2.75	0.34*
SJ	74	67.89	1.68***
SP	18	16.51	1.10
NP	8	7.34	0.30***
NJ	9	8.26	0.42***
TJ	29	26.61	1.24
TP	7	6.42	1.13
FP	19	17.43	0.51***
FJ	54	49.54	1.27*
IN	6	5.50	0.38**
EN	11	10.09	0.34***
IS	29	26.61	1.22
ES	63	57.80	1.71***

NOTES ▮ = 1% of sample

Sample includes 109 females scoring high (A = T score 48+) on the Dental Assistant Scale of the Strong Vocational Interest Blank T398. They were among 528 females enrolled in a course entitled Introduction to the Health Related Professions at the University of Florida between 1973 and 1976. Data collected by M. H. McCaulley & course faculty.

Ratio = % with High Score : % of all females.

For all tables in this report, * $p < .05$, ** $p < .01$ and *** $p < .001$.

Myers-Briggs Type Indicator

Type Table

UNIVERSITY STUDENTS IN HEALTH RELATED PROFESSIONS COURSE

HIGH SCORE ON SVIB LICENSED PRACTICAL NURSE

N = 58 FEMALES

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N = 6 % = 10.34 ▮▮▮▮▮▮▮▮▮▮	ISFJ N = 6 % = 10.34 ▮▮▮▮▮▮▮▮▮▮	INFJ N = 3 % = 5.17 ▮▮▮▮▮	INTJ N = 2 % = 3.45 ▮▮▮	JUDGING INTROVERTS
ISTP N = 0 % = 0.0	ISFP N = 1 % = 1.72 ▮▮	INFP N = 0 % = 0.0	INTP N = 0 % = 0.0	PERCEPTIVE INTROVERTS
ESTP N = 2 % = 3.45 ▮▮▮	ESFP N = 3 % = 5.17 ▮▮▮▮▮	ENFP N = 6 % = 10.34 ▮▮▮▮▮▮▮▮▮▮	ENTP N = 0 % = 0.0	PERCEPTIVE EXTRAVERTS
ESTJ N = 10 % = 17.24 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮	ESFJ N = 13 % = 22.41 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮	ENFJ N = 5 % = 8.62 ▮▮▮▮▮▮▮▮▮	ENTJ N = 1 % = 1.72 ▮▮	JUDGING EXTRAVERTS

	N	PERCENT	RATIO
E	40	68.97	1.08
I	18	31.03	0.86
S	41	70.69	1.27*
N	17	29.31	0.66*
T	21	36.21	1.34
F	37	63.79	0.87
J	46	79.31	1.31**
P	12	20.69	0.52**
IJ	17	29.31	1.30
IP	1	1.72	0.13**
EP	11	18.97	0.73
EJ	29	50.00	1.32*
ST	18	31.03	1.64*
SF	23	39.66	1.08
NF	14	24.14	0.66*
NT	3	5.17	0.64
SJ	35	60.34	1.49**
SP	6	10.34	0.69
NP	6	10.34	0.42**
NJ	11	18.97	0.95
TJ	19	32.76	1.53*
TP	2	3.45	0.61
FP	10	17.24	0.51**
FJ	27	46.55	1.19
IN	5	8.62	0.60
EN	12	20.69	0.69
IS	13	22.41	1.03
ES	28	48.28	1.43*

NOTES ▮ = 1% of sample

Sample includes 58 females scoring high (A = T score 48+) on the Licensed Practical Nurse Scale of the Strong Vocational Interest Blank T398. They were among 528 females enrolled in a course entitled Introduction to the Health Related Professions at the University of Florida between 1973 and 1976. Data collected by M. H. McCaulley & course faculty.

Ratio = % with High Score : % of all females.

For all tables in this report, * $p < .05$, ** $p < .01$ and *** $p < .001$.

2. Nursing and Allied Fields

The sample of 7625 nursing students includes 7226 students for which level of training is known. Of these, 70 were training to be licensed practical nurses; 1345 were in two-year programs; 3171 were from Myers' sample of diploma nursing students tested in 1964-65; 2074 were in baccalaureate nursing programs, and 566 were in graduate degree nursing programs. Table 16 compares nursing students and practitioners.

The nursing student composite sample has 58% extraverts, 60% sensing types, 74% feeling types, and 61% judging types. The three most frequent types are ESFJ (18%), ISFJ (13%) and ENFP (11%). These three types alone account for 42% of the nursing student sample. The least represented types are ISTP and INTP, ESTP and ENTP, and INTJ; these five types together represent 9% of the student sample.

a. Comparisons of Nursing Students to High School Students

Compared to the 6738 high school juniors and seniors of both sexes in the CAPT data bank, the composite of nursing students has more extraverts (1.04**), sensing types (1.06***), feeling types (1.14***) and judging types (1.41***). The high school types with the greatest attraction to nursing are the four types which extravert feeling, ISFJ (1.71***), INFJ (1.49***), ESFJ (1.68***) and ENFJ (1.82***). Although the absolute numbers of ENFP are larger than INFJ and ENFJ, there are relatively fewer of them studying nursing (.88**). The -S-P types which are underrepresented in both medicine and dentistry are also significantly underrepresented in nursing programs (.61***).

b. Comparisons of Nursing Students to College Freshmen

The picture here is much the same as with the high school comparison— nursing students have significantly more extraverts (1.06***), sensing types (1.09***), feeling types (1.10***) and judging types (1.16***). The college students significantly attracted to nursing are ISFJ, ESFJ and ENFJ.

c. Nursing Students in Programs at Different Levels

From other research, the prediction would be that students at the baccalaureate and graduate level would have more introverts, more intuitive types, and perhaps more thinking types if the higher levels required more science. The percentages of students at different levels are shown below:

	N	E	S	F	J
Licensed Practical Nurse	70	47%	70%	77%	61%
Community College - 2 year	1345	57%	61%	75%	57%
Diploma Schools (Myers)	3171	64%	67%	75%	66%
Baccalaureate	2074	52%	52%	73%	58%
Graduate Programs	566	48%	42%	64%	58%

Table 16
Comparison of Students and Practitioners in Nursing and Allied Fields

Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF STUDENTS IN
NURSING AND ALLIED FIELDS
N = 7625

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING		
ISTJ N =496 % = 6.50 ▮▮▮▮▮▮	*ISFJ* N =956 % = 12.54 ▮▮▮▮▮▮▮▮▮▮▮▮▮	*INFJ* N =342 % = 4.49 ▮▮▮▮	*INTJ* N =127 % = 1.67 ▮▮	JUDGING	INTROVERTS
ISTP N =122 % = 1.60 ▮▮	*ISFP* N =422 % = 5.53 ▮▮▮▮▮▮	*INFP* N =581 % = 7.62 ▮▮▮▮▮▮▮▮	*INTP* N =129 % = 1.69 ▮▮	PERCEPTIVE	
ESTP N = 144 % = 1.89 ▮▮	*ESFP* N = 506 % = 6.64 ▮▮▮▮▮▮▮	*ENFP* N = 867 % = 11.37 ▮▮▮▮▮▮▮▮▮▮▮	*ENTP* N = 188 % = 2.47 ▮▮	PERCEPTIVE	EXTRAVERTS
ESTJ N = 589 % = 7.72 ▮▮▮▮▮▮▮▮	*ESFJ* N =1374 % = 18.02 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮	*ENFJ* N = 582 % = 7.63 ▮▮▮▮▮▮▮▮	*ENTJ* N = 200 % = 2.62 ▮▮▮	JUDGING	

	N	Percent
E	4450	58.36
I	3175	41.64
S	4609	60.45
N	3016	39.55
T	1995	26.16
F	5630	73.84
J	4666	61.19
P	2959	38.81
IJ	1921	25.19
IP	1254	16.45
EP	1705	22.36
EJ	2745	36.00
ST	1351	17.72
SF	3258	42.73
NF	2372	31.11
NT	644	8.45
SJ	3415	44.79
SP	1194	15.66
NP	1765	23.15
NJ	1251	16.41
TJ	1412	18.52
TP	583	7.65
FP	2376	31.16
FJ	3254	42.68
IN	1179	15.46
EN	1837	24.09
IS	1996	26.18
ES	2613	34.27

NOTES ▮ = 1% of sample

Table includes 7625 nursing students.

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Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF PRACTITIONERS IN
NURSING AND ALLIED FIELDS
N = 2635

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING		
ISTJ N =238 % = 9.03 ▮▮▮▮▮▮▮▮▮	*ISFJ* N =402 % = 15.26 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮	*INFJ* N =122 % = 4.63 ▮▮▮▮▮	*INTJ* N = 81 % = 3.07 ▮▮▮	JUDGING	INTROVERTS
ISTP N = 73 % = 2.77 ▮▮▮	*ISFP* N =171 % = 6.49 ▮▮▮▮▮▮	*INFP* N =207 % = 7.86 ▮▮▮▮▮▮▮▮	*INTP* N = 69 % = 2.62 ▮▮▮	PERCEPTIVE	
ESTP N = 42 % = 1.59 ▮▮	*ESFP* N =110 % = 4.17 ▮▮▮▮	*ENFP* N =298 % =11.31 ▮▮▮▮▮▮▮▮▮▮▮	*ENTP* N = 75 % = 2.85 ▮▮▮	PERCEPTIVE	EXTRAVERTS
ESTJ N = 182 % = 6.91 ▮▮▮▮▮▮▮	*ESFJ* N = 313 % = 11.88 ▮▮▮▮▮▮▮▮▮▮▮▮	*ENFJ* N = 161 % = 6.11 ▮▮▮▮▮▮	*ENTJ* N = 91 % = 3.45 ▮▮▮	JUDGING	

	N	Percent
E	1272	48.27
I	1363	51.73
S	1531	58.10
N	1104	41.90
T	851	32.30
F	1784	67.70
J	1590	60.34
P	1045	39.66
IJ	843	31.99
IP	520	19.73
EP	525	19.92
EJ	747	28.35
ST	535	20.30
SF	996	37.80
NF	788	29.91
NT	316	11.99
SJ	1135	43.07
SP	396	15.03
NP	649	24.63
NJ	455	17.27
TJ	592	22.47
TP	259	9.83
FP	786	29.83
FJ	998	37.87
IN	479	18.18
EN	625	23.72
IS	884	33.55
ES	647	24.55

NOTES ▮ = 1% of sample

Table includes 840 R.N.s, 113 L.P.N.s, 191 hospital practitioners, 10 clinic practitioners, 659 general practitioners, 171 nursing aides, and 651 specialties practitioners.

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Myers' diploma sample has more extraverts than the present-day student groups. There is a drop in the proportion of sensing types and an increase in intuitive types as students enter higher educational levels. The proportion of feeling types remains the same at all levels except that there are somewhat more thinking types in graduate programs. All groups have a majority of the organized and systematic judging types.

The patient-oriented -SF- types show comparable changes from level to level: 50% in the LPN students, 44% in the 2-year students, 48% in the diploma students, 35% in baccalaureate students and 27% in graduate students.

Nursing at all levels attracts types with a concern for people (F) and for actively helping them (E, J). All sixteen types are found in nursing programs, though the types with thinking are clearly in the minority. The more academic types (IN--) are especially attracted to baccalaureate (1.39***) and graduate (1.70***) study.

While nursing attracts both sensing types with their gift for the day-to-day activities of patient care, and intuitive types who are concerned with possibilities for change, the fact that these types are likely to be at different educational levels, and thus at different levels of the power structure, can be a source of friction within the nursing profession.

d. Comparison of SVIB Nursing Interest and Student Distributions

Table 8 showed three SVIB nursing scales, scored only for females. The Licensed Practical Nurse scale was associated with -STJ, the Registered Nurse scale with E-FJ and the Public Health Nurse scale with E-FJ also.

The SVIB Licensed Practical Nurse scale has more extraverts (69%) than our small student sample (47%). Both distributions have the weight in the four -S-J types (60% of the SVIB LPN sample, 53% of actual LPN students) and both have very few of the scientific -NT- types (5% of SVIB, 3% of students).

The SVIB Registered Nurse scale, like the LPN scale and the Dental Assistant scale has more extraverts than the actual student samples, and more judging types as well. The most frequent types scoring high on SVIB Registered Nurse are ESFJ (21%), ENFP (13%), ENFJ (12%), ESTJ (12%) and ISFJ (10%). These are frequent types among actual students.

The SVIB Public Health Nurse scale selects the same five types and has a very similar distribution to the Registered Nurse scale.

High scorers on the SVIB nursing scales are likely to be the same types frequently found among nursing students.

Table 17
Type Distributions of Students with High Scores on SVIB Registered Nurse and Public Health Nurse Scales

Myers-Briggs Type Indicator **Type Table**

UNIVERSITY STUDENTS IN HEALTH RELATED PROFESSIONS COURSE

HIGH SCORE ON SVIB REGISTERED NURSE

N = 197 FEMALES

SENSING TYPES with THINKING	 with FEELING	INTUITIVE TYPES with FEELING	 with THINKING	
ISTJ N = 10 % = 5.08	*ISFJ* N = 20 % = 10.15	*INFJ* N = 8 % = 4.06	*INTJ* N = 5 % = 2.54	JUDGING / INTROVERTS
ISTP N = 0 % = 0.0	*ISFP* N = 9 % = 4.57	*INFP* N = 7 % = 3.55	*INTP* N = 1 % = 0.51	PERCEPTIVE / INTROVERTS
ESTP N = 3 % = 1.52	*ESFP* N = 12 % = 6.09	*ENFP* N = 26 % = 13.20	*ENTP* N = 1 % = 0.51	PERCEPTIVE / EXTRAVERTS
ESTJ N = 23 % = 11.68	*ESFJ* N = 41 % = 20.81	*ENFJ* N = 24 % = 12.18	*ENTJ* N = 7 % = 3.55	JUDGING / EXTRAVERTS

	N	PERCENT	RATIO
E	137	69.54	1.09*
I	60	30.46	0.84*
S	118	59.90	1.08
N	79	40.10	0.90
T	50	25.38	0.94
F	147	74.62	1.02
J	138	70.05	1.16***
P	59	29.95	0.76***
IJ	43	21.83	0.97
IP	17	8.63	0.63**
EP	42	21.32	0.82
EJ	95	48.22	1.27***
ST	36	18.27	0.96
SF	82	41.62	1.14
NF	65	32.99	0.91
NT	14	7.11	0.87
SJ	94	47.72	1.18**
SP	24	12.18	0.81
NP	35	17.77	0.72**
NJ	44	22.34	1.12
TJ	45	22.84	1.07
TP	5	2.54	0.45*
FP	54	27.41	0.81*
FJ	93	47.21	1.21**
IN	21	10.66	0.74
EN	58	29.44	0.98
IS	39	19.80	0.91
ES	79	40.10	1.19*

NOTES: ▌ = 1% of sample
Sample includes 197 females scoring high (A = T score 48+) on the Registered Nurse Scale of the Strong Vocational Interest Blank T398. They were among 528 females enrolled in a course entitled Introduction to the Health Related Professions at the University of Florida between 1973 and 1976. Data collected by M. H. McCaulley & course faculty.
Ratio = % with High Score ÷ % of all females.
For all tables in this report, * $p < .05$, ** $p < .01$ and *** $p < .001$.

Myers-Briggs Type Indicator **Type Table**

UNIVERSITY STUDENTS IN HEALTH RELATED PROFESSIONS

HIGH SCORE ON SVIB PUBLIC HEALTH NURSE

N = 159 FEMALES

SENSING TYPES with THINKING	 with FEELING	INTUITIVE TYPES with FEELING	 with THINKING	
ISTJ N = 8 % = 5.03	*ISFJ* N = 22 % = 13.84	*INFJ* N = 8 % = 5.03	*INTJ* N = 4 % = 2.52	JUDGING / INTROVERTS
ISTP N = 0 % = 0.0	*ISFP* N = 5 % = 3.14	*INFP* N = 4 % = 2.52	*INTP* N = 0 % = 0.0	PERCEPTIVE / INTROVERTS
ESTP N = 1 % = 0.63	*ESFP* N = 9 % = 5.66	*ENFP* N = 20 % = 12.58	*ENTP* N = 0 % = 0.0	PERCEPTIVE / EXTRAVERTS
ESTJ N = 16 % = 10.06	*ESFJ* N = 38 % = 23.90	*ENFJ* N = 18 % = 11.32	*ENTJ* N = 6 % = 3.77	JUDGING / EXTRAVERTS

	N	PERCENT	RATIO
E	108	67.92	1.06
I	51	32.08	0.89
S	99	62.26	1.12*
N	60	37.74	0.85*
T	35	22.01	0.81
F	124	77.99	1.07
J	120	75.47	1.25***
P	39	24.53	0.62***
IJ	42	26.42	1.17
IP	9	5.66	0.42***
EP	30	18.87	0.73*
EJ	78	49.06	1.30***
ST	25	15.72	0.83
SF	74	46.54	1.27**
NF	50	31.45	0.86
NT	10	6.29	0.77
SJ	84	52.83	1.30***
SP	15	9.43	0.63*
NP	24	15.09	0.61***
NJ	36	22.64	1.14
TJ	34	21.38	1.00
TP	1	0.63	0.11***
FP	38	23.90	0.70**
FJ	86	54.09	1.39***
IN	16	10.06	0.70
EN	44	27.67	0.92
IS	35	22.01	1.01
ES	64	40.25	1.19*

NOTES: ▌ = 1% of sample
Sample includes 159 females scoring high (A = T score 48+) on the Public Health Nurse Scale of the Strong Vocational Interest Blank T398. They were among 528 females enrolled in a course entitled Introduction to the Health Related Professions at the University of Florida between 1973 and 1976. Data collected by M. H. McCaulley & course faculty.
Ratio = % with High Score ÷ % of all females.
For all tables in this report, * $p < .05$, ** $p < .01$ and *** $p < .001$.

e. Sex Differences in Nursing Students

Of the 10,260 nursing students, type distributions could be made for 198 males and 5207 females.

The male sample has significantly fewer extraverts than the female students (53% compared to 60%), fewer feeling types (55% compared to 74%) and fewer judging types (53% compared to 62%). Both sexes have substantial numbers of -S-J types; ESFJ, INFP, ISTJ and ESTJ are the most frequent nursing types in the male student sample, accounting for 42%. From these data, despite the similarity of the male and female samples, one would expect more diversity in male nurses, as they have better representation of the technical -ST-'s, the scientific -NT's, the academic IN--'s, and the executive --TJ's.

In summary, nursing attracts all 16 types, but has a particular attraction to the types with feeling, sensing and judging. This gives the picture of an action-oriented, decisive group of professionals concerned for patient welfare. The more academically and scientifically-minded types are more frequent in baccalaureate and graduate programs, as would be expected. Analytical and logical thinking types are in the minority; females of these types may find kindred spirits in their male colleagues where thinking types are more frequent. The types expressing high interest in nursing on the Strong Vocational Interest Blank do also appear in greater numbers among nursing students.

Because nursing attracts proportionately more sensing types, and many extraverts with sensing whose abilities are better measured in actions than by written tests, directors of programs may find themselves having to defend their students to other administrators. Programs with a majority of sensing types typically have lower averages on aptitude tests than programs such as the sciences and humanities, which attract more intuitive types. Much work needs to be done to spell out the specifics of patient-care talents which are not tapped by written scholastic aptitude tests.

3. Optometry

Interest in the MBTI by optometry is very recent, and only 91 students are reported, mostly from one school.

In these very preliminary data, the only consistent finding is that the thoughtful and organized I--J types appear to find the field attractive; significantly more I--J types are in optometry than are found in high school (ratio 2.05***) or college freshmen (1.64***).

The six most frequent types in the students are ENFP, ESFJ, and the 4 I--J's; together they account for 63% of all students. These six types also account for 61% of the composite sample of 116 optometry students and practitioners.

Projects now beginning will soon give a better picture of optometry.

Table 18

Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF STUDENTS AND PRACTITIONERS IN

OPTOMETRY

N = 116

SENSING TYPES		INTUITIVE TYPES			
with THINKING	with FEELING	with FEELING	with THINKING		
ISTJ N = 11 % = 9.48 ▯▯▯▯▯▯▯▯▯	*ISFJ* N = 14 % = 12.07 ▯▯▯▯▯▯▯▯▯▯ ▯▯	*INFJ* N = 10 % = 8.62 ▯▯▯▯▯▯▯▯▯	*INTJ* N = 8 % = 6.90 ▯▯▯▯▯▯▯	JUDGING	INTROVERTS
ISTP N = 3 % = 2.59 ▯▯▯	*ISFP* N = 5 % = 4.31 ▯▯▯▯	*INFP* N = 4 % = 3.45 ▯▯▯	*INTP* N = 5 % = 4.31 ▯▯▯▯	PERCEPTIVE	
ESTP N = 4 % = 3.45 ▯▯▯	*ESFP* N = 4 % = 3.45 ▯▯▯	*ENFP* N = 14 % = 12.07 ▯▯▯▯▯▯▯▯▯▯ ▯▯	*ENTP* N = 2 % = 1.72 ▯▯	PERCEPTIVE	EXTRAVERTS
ESTJ N = 7 % = 6.03 ▯▯▯▯▯▯	*ESFJ* N = 14 % = 12.07 ▯▯▯▯▯▯▯▯▯▯ ▯▯	*ENFJ* N = 5 % = 4.31 ▯▯▯▯	*ENTJ* N = 6 % = 5.17 ▯▯▯▯▯	JUDGING	

	N	Percent
E	56	48.28
I	60	51.72
S	62	53.45
N	54	46.55
T	46	39.66
F	70	60.34
J	75	64.66
P	41	35.34
IJ	43	37.07
IP	17	14.66
EP	24	20.69
EJ	32	27.59
ST	25	21.55
SF	37	31.90
NF	33	28.45
NT	21	18.10
SJ	46	39.66
SP	16	13.79
NP	25	21.55
NJ	29	25.00
TJ	32	27.59
TP	14	12.07
FP	27	23.28
FJ	43	37.07
IN	27	23.28
EN	27	23.28
IS	33	28.45
ES	29	25.00

NOTES: ▯ = 1% of sample

Table includes 91 optometry students and 25 optometry practitioners. The CAPT data bank supplied 116 cases; 0 are from other sources.

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4. Pharmacy and Allied Fields

A total of 2433 pharmacy students with MBTI scores were located. Almost all are from Illinois or Florida. A series of studies are underway at the University of Illinois.

The students are 52% introverts, 56% sensing types, 53% feeling types and 59% judging types.

a. Pharmacy Students Compared to High School Students

Compared to the high school juniors and seniors of the CAPT data bank, pharmacy students have significantly more introverts ratio 1.20***) and judging types (1.36***). Feeling types are in the majority in pharmacy students, but there are significantly fewer than among high school students (.82***). When male pharmacy students are compared to male high school students, and when female pharmacy students are compared to female high school students, in both cases there are significantly more thinking types in the pharmacy students (52%, ratio 1.16*** for males, 38%, ratio 1.80*** for females).

Four types, the -S-J group, are in theory most likely to enjoy work requiring care with detail and precision. These types account for 40% of the sample, and are significantly more frequent in pharmacy students than among high school students (1.27***).

Although pharmacy has equal numbers of the technical -ST- types and patient-oriented -SF- types, the field has drawn proportionately more -ST-s (1.27***) and fewer -SF-'s (.81***) from the student pool.

b. Pharmacy Students Compared to College Students

Compared to college freshmen in the CAPT data bank, pharmacy students have more introverts (1.17***), more thinking types (1.42***) and more judging types (1.12***). All four of the --TJ types and the -NT- types are significantly attracted to pharmacy. The four gentle and adaptable types, the --FP- group, enter pharmacy significantly less often than would be expected from their numbers among college students.

At the University of Florida, pharmacy students, in comparison to all entering students, had significantly more introverts (68%, ratio 1.43***) and sensing types (61%, ratio 1.31***) than other students.

c. SVIB Pharmacist Scale and Pharmacy Students

The SVIB pharmacist scale is scored only for males. In the male health-related students, Pharmacist correlated only with sensing. Not enough males scored high on the Pharmacist scale to make an interpretable type distribution.

Table 19
Composite of Students and Practitioners in Pharmacy and Allied Fields

Myers-Briggs Type Indicator **Type Table**

COMPCSITE OF STUDENTS IN
PHARMACY AND ALLIED FIELDS
N = 2433

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING		
ISTJ N=274 % = 11.26 ▌▌▌▌▌▌▌▌▌▌▌	**ISFJ** N=263 % = 10.81 ▌▌▌▌▌▌▌▌▌▌▌	**INFJ** N=109 % = 4.48 ▌▌▌▌	**INTJ** N=112 % = 4.60 ▌▌▌▌▌	JUDGING	INTROVERTS
ISTP N=100 % = 4.11 ▌▌▌▌	**ISFP** N=118 % = 4.85 ▌▌▌▌▌	**INFP** N=177 % = 7.27 ▌▌▌▌▌▌▌	**INTP** N=123 % = 5.06 ▌▌▌▌▌	PERCEPTIVE	
ESTP N= 66 % = 2.71 ▌▌▌	**ESFP** N=105 % = 4.32 ▌▌▌▌	**ENFP** N=189 % = 7.77 ▌▌▌▌▌▌▌▌	**ENTP** N=114 % = 4.69 ▌▌▌▌▌	PERCEPTIVE	EXTRAVERTS
ESTJ N=223 % = 9.17 ▌▌▌▌▌▌▌▌▌	**ESFJ** N=210 % = 8.63 ▌▌▌▌▌▌▌▌▌	**ENFJ** N=130 % = 5.34 ▌▌▌▌▌	**ENTJ** N=120 % = 4.93 ▌▌▌▌▌	JUDGING	

	N	Percent
E	1157	47.55
I	1276	52.45
S	1359	55.86
N	1074	44.14
T	1132	46.53
F	1301	53.47
J	1441	59.23
P	992	40.77
IJ	758	31.15
IP	518	21.29
EP	474	19.48
EJ	683	28.07
ST	663	27.25
SF	696	28.61
NF	605	24.87
NT	469	19.28
SJ	970	39.87
SP	389	15.99
NP	603	24.78
NJ	471	19.36
TJ	729	29.96
TP	403	16.56
FP	589	24.21
FJ	712	29.26
IN	521	21.41
EN	553	22.73
IS	755	31.03
ES	604	24.83

NOTES: ▌ = 1% of sample

Table includes 2433 pharmacy students.

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Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF PRACTITIONERS IN
PHARMACY AND ALLIED FIELDS
N = 279

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING		
ISTJ N=34 % =12.19 ▌▌▌▌▌▌▌▌▌▌▌▌	**ISFJ** N=28 % =10.04 ▌▌▌▌▌▌▌▌▌▌	**INFJ** N=17 % = 6.09 ▌▌▌▌▌▌	**INTJ** N=17 % = 6.09 ▌▌▌▌▌▌	JUDGING	INTROVERTS
ISTP N=12 % = 4.30 ▌▌▌▌	**ISFP** N= 7 % = 2.51 ▌▌▌	**INFP** N=14 % = 5.02 ▌▌▌▌▌	**INTP** N=21 % = 7.53 ▌▌▌▌▌▌▌	PERCEPTIVE	
ESTP N= 9 % = 3.23 ▌▌▌	**ESFP** N= 8 % = 2.87 ▌▌▌	**ENFP** N=17 % = 6.09 ▌▌▌▌▌▌	**ENTP** N=14 % = 5.02 ▌▌▌▌▌	PERCEPTIVE	EXTRAVERTS
ESTJ N=23 % = 8.24 ▌▌▌▌▌▌▌▌	**ESFJ** N=25 % = 8.96 ▌▌▌▌▌▌▌▌▌	**ENFJ** N=24 % = 8.60 ▌▌▌▌▌▌▌▌▌	**ENTJ** N= 9 % = 3.23 ▌▌▌	JUDGING	

	N	Percent
E	129	46.24
I	150	53.76
S	146	52.33
N	133	47.67
T	139	49.82
F	140	50.18
J	177	63.44
P	102	36.56
IJ	96	34.41
IP	54	19.35
EP	48	17.20
EJ	81	29.03
ST	78	27.96
SF	68	24.37
NF	72	25.81
NT	61	21.86
SJ	110	39.43
SP	36	12.90
NP	66	23.66
NJ	67	24.01
TJ	83	29.75
TP	56	20.07
FP	46	16.49
FJ	94	33.69
IN	69	24.73
EN	64	22.94
IS	81	29.03
ES	65	23.30

NOTES: ▌ = 1% of sample

Table includes 193 pharmacists, 72 pharmacy interns, 11 pharmacy technicians, 1 pharmacognocist, and 2 pharmacologists.

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d. Sex Differences in Pharmacy Students

Of the 2433 pharmacy students, sex distributions could be made for 1438 males and 684 females.

Males and females are approximately the same on introversion (males 53%, females 52%) and both have significantly more introverts than typical of their sex in high school. They are also similar in preferring sensing perception (males 56% and females 55%), and both are typical of their sex in high school.

As would be expected, they differ on thinking and feeling, with 52% of male pharmacy students preferring thinking, and 62% of females preferring feeling. As noted above, both males and females have more thinking types than their sex in high school.

Both sexes have more judging types, with males 60% and females 56%, and, again, both have more judging types than their sex in high school. The types with greatest numbers for males are ISTJ, ESTJ and ISFJ; These three types alone account for 33% of male students. The types with greatest numbers for females are ISFJ, ESFJ, ENFP and ISTJ; these four types account for 40% of the female pharmacy students.

Compared to their numbers in high school, significantly more of all four I--J types, -NT- types and --TJ types are attracted to pharmacy. For males, significantly more I--J and --TJ types are attracted to pharmacy. For both males and females, the --FP types are significantly less likely to be found among pharmacy students.

In summary, all 16 types are found in pharmacy in substantial numbers, in both male and female pharmacy students. Males and females are more alike than different in type distributions, with the major difference being the greater number of feeling types in females. Pharmacy is particularly attractive to the organized introverts (I--J), the organized thinking types (--TJ) and the organized and practical -S-J types. Although the spontaneous and adaptable perceptive types are found in large numbers, there are significantly fewer than would be expected, given the numbers of these types in high school and college. Aside from the expected sex difference in the number of thinking types, both males and females attracted to pharmacy come from the same types.

According to the data at this stage, types especially attracted to pharmacy are more likely to have their primary interest in the technical and scientific aspects of the field, and in organizing efficient delivery systems. There are relatively fewer of the types concerned primarily with psychological issues in use of drugs.

5. Veterinary Medicine and Allied Fields

The sample of 121 students interested in Veterinary Medicine and 21 Practitioners from the CAPT data bank is obviously too small a sample to represent this important health profession. Most of the students are pre-Veterinary Medicine students at the University of Florida, where the program in Veterinary Medicine is just now being instituted.

This sample has more intuitive types and more judging types than the high school sample, and is not significantly different from the college sample.

Our prediction, when there are more representative samples, is that sensing types will be attracted to this field, especially the IS-- group. One type, ISFP, is postulated to have a special affinity for animals; in these preliminary data, all the -SF- types have ratios less than 1.00. However, we predict more of these types when we have better data. It will also be interesting to see how this profession compares with human medicine. Will there be comparable numbers of science-minded NT types who are most likely to have the academic credentials? Will there be more communications-oriented NF types who like to intuit subtleties of human behavior from minimal cues? Or will veterinary medicine attract sensing types, people whose pleasure is in the giving of care at a physical rather than at a psychological level? It will also be interesting to learn whether there are type differences in veterinarians who prefer to work with large animals or small animals; in those who own local animal hospitals compared to those working in institutions, such as medical centers, or zoos, or who practice in rural areas and are mainly concerned with farm animals.

To our knowledge, no investigators are seriously studying type differences in veterinary medicine. More information about these health professionals could greatly improve the counseling of students, not only those students planning to enter this health profession, but also students wishing to work in health without a clear idea as to the health fields for which they are best suited.

Table 20

Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF STUDENTS AND PRACTITIONERS IN
VETERINARY MEDICINE AND ALLIED FIELDS
N = 142

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N=13 % = 9.15 ▯▯▯▯▯▯▯▯▯	**ISFJ** N=11 % = 7.75 ▯▯▯▯▯▯▯▯	**INFJ** N= 4 % = 2.82 ▯▯▯	**INTJ** N= 9 % = 6.34 ▯▯▯▯▯▯	INTROVERTS JUDGING
ISTP N= 2 % = 1.41 ▯	**ISFP** N= 8 % = 5.63 ▯▯▯▯▯▯	**INFP** N=19 % =13.38 ▯▯▯▯▯▯▯▯▯▯ ▯▯▯	**INTP** N= 5 % = 3.52 ▯▯▯▯	INTROVERTS PERCEPTIVE
ESTP N= 2 % = 1.41 ▯	**ESFP** N= 5 % = 3.52 ▯▯▯▯	**ENFP** N=22 % =15.49 ▯▯▯▯▯▯▯▯▯▯ ▯▯▯▯▯	**ENTP** N= 3 % = 2.11 ▯▯	EXTRAVERTS PERCEPTIVE
ESTJ N=10 % = 7.04 ▯▯▯▯▯▯▯	**ESFJ** N=16 % =11.27 ▯▯▯▯▯▯▯▯▯▯ ▯	**ENFJ** N= 6 % = 4.23 ▯▯▯▯	**ENTJ** N= 7 % = 4.93 ▯▯▯▯▯	EXTRAVERTS JUDGING

	N	Percent
E	71	50.00
I	71	50.00
S	67	47.18
N	75	52.82
T	51	35.92
F	91	64.08
J	76	53.52
P	66	46.48
IJ	37	26.06
IP	34	23.94
EP	32	22.54
EJ	39	27.46
ST	27	19.01
SF	40	28.17
NF	51	35.92
NT	24	16.90
SJ	50	35.21
SP	17	11.97
NP	49	34.51
NJ	26	18.31
TJ	39	27.46
TP	12	8.45
FP	54	38.03
FJ	37	26.06
IN	37	26.06
EN	38	26.76
IS	34	23.94
ES	33	23.24

NOTES: ▯ = 1% of sample

Table includes 121 veterinary students and 21 practitioners (9 veterinarian and 12 veterinary assistant). The CAPT data bank supplied 142 cases; 0 are from other sources.

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D. Health-Related Professions and Services

1. Clinical Laboratory Services

The 705 students in Clinical Laboratory Services are primarily undergraduates in baccalaureate programs in medical technology. Less than 100 are in 2-year medical laboratory technician programs. They are not separated out because, when MBTI's were scored, no distinction was made in the CAPT coding system. This is a field where CAPT has more data on practitioners than students, and an analysis of the different levels of training will be made in discussing practitioners in Part IV of this report.

The 705 students have 51% introverts, 60% sensing types, 61% feeling types, and 65% judging types.

Because clinical laboratory services should be carried out with careful attention to detail and in a systematic manner, often working alone, we had predicted that the field would attract I-SJ types.

a. Comparison with High School Students

Compared to high school students, the medical technology students have significantly more introverts (1.16***), more thinking types (1.12*, even though feeling types are in the majority), and more judging types (1.50***). All four I--J and all four --TJ types are attracted to medical technology, as are the -S-J group who alone make up 44% of the sample.

b. Comparison with College Freshmen

Compared to college freshmen, medical technology attracts significantly more introverts (1.13**), sensing types (1.07*), thinking types (1.20***) and judging types (1.23***). Again, there are significantly more I--J types (1.39***), --TJ types (1.43***) and -S-J types (1.20***). ISFJ is the most frequent type, accounting for 15% of the sample; ISFJ, ESTJ and ESFJ make up 37% of the student group. ISTJ, though attracted to medical technology, does not have a significantly greater number than expected based on either the high school or college samples. ESFJ, though well-represented, has fewer than expected based on college samples.

c. SVIB Medical Technologist Scale Compared to Student Samples

Table 8 showed significant correlations between the SVIB scale for interest in Medical Technology and MBTI preferences for I, S, T and J. (This scale is scored for females only in SVIB.)

The type distribution for Health-Related Professions students scoring high on Medical Technologist shows that, compared to other students, there are significantly more I--J, -S-J, --TJ and IS-- types. The -S-J group accountes for 55% of the sample. The distribution is therefore similar to that of actual students.

Table 21
Comparison of Students and Practitioners in Clinical Laboratory Services

Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF STUDENTS IN
CLINICAL LABORATORY SERVICES
N = 705

SENSING TYPES		INTUITIVE TYPES		
with THINKING	with FEELING	with FEELING	with THINKING	
ISTJ N = 55 % = 7.80	ISFJ N = 108 % = 15.32	INFJ N = 31 % = 4.40	INTJ N = 35 % = 4.96	JUDGING / INTROVERTS
ISTP N = 15 % = 2.13	ISFP N = 47 % = 6.67	INFP N = 44 % = 6.24	INTP N = 23 % = 3.26	PERCEPTIVE / INTROVERTS
ESTP N = 12 % = 1.70	ESFP N = 33 % = 4.68	ENFP N = 54 % = 7.66	ENTP N = 18 % = 2.55	PERCEPTIVE / EXTRAVERTS
ESTJ N = 72 % = 10.21	ESFJ N = 78 % = 11.06	ENFJ N = 34 % = 4.82	ENTJ N = 46 % = 6.52	JUDGING / EXTRAVERTS

	N	Percent
E	347	49.22
I	358	50.78
S	420	59.57
N	285	40.43
T	276	39.15
F	429	60.85
J	459	65.11
P	246	34.89
IJ	229	32.48
IP	129	18.30
EP	117	16.60
EJ	230	32.62
ST	154	21.84
SF	266	37.73
NF	163	23.12
NT	122	17.30
SJ	313	44.40
SP	106	15.18
NP	139	19.72
NJ	146	20.71
TJ	208	29.50
TP	68	9.65
FP	168	25.25
FJ	251	35.60
IN	133	18.87
EN	152	21.56
IS	225	31.91
ES	195	27.66

NOTES ▮ = 1% of sample

Table includes 705 students in clinical laboratory services; most are baccalaureate students in medical technology; about 10% are in two-year medical laboratory technician programs.

Prepared as a part of the final report for "Application of the Myers-Briggs Type Indicator to Medicine and Other Health Professions," Contract No. 231-76-0051 for Health Resources Administration, HEW.

Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF PRACTITIONERS IN
CLINICAL LABORATORY SERVICES
N = 1183

SENSING TYPES		INTUITIVE TYPES		
with THINKING	with FEELING	with FEELING	with THINKING	
ISTJ N = 154 % = 13.02	ISFJ N = 162 % = 13.69	INFJ N = 57 % = 4.82	INTJ N = 51 % = 4.31	JUDGING / INTROVERTS
ISTP N = 29 % = 2.45	ISFP N = 60 % = 5.07	INFP N = 101 % = 8.54	INTP N = 39 % = 3.30	PERCEPTIVE / INTROVERTS
ESTP N = 28 % = 2.37	ESFP N = 47 % = 3.97	ENFP N = 83 % = 7.02	ENTP N = 32 % = 2.70	PERCEPTIVE / EXTRAVERTS
ESTJ N = 119 % = 10.06	ESFJ N = 112 % = 9.47	ENFJ N = 60 % = 5.07	ENTJ N = 49 % = 4.14	JUDGING / EXTRAVERTS

	N	Percent
E	530	44.80
I	653	55.20
S	711	60.10
N	472	39.90
T	501	42.35
F	682	57.65
J	764	64.58
P	419	35.42
IJ	424	35.84
IP	229	19.36
EP	190	16.06
EJ	340	28.74
ST	330	27.90
SF	381	32.21
NF	301	25.44
NT	171	14.45
SJ	547	46.24
SP	164	13.86
NP	255	21.56
NJ	217	18.34
TJ	373	31.53
TP	128	10.82
FP	291	24.60
FJ	391	33.05
IN	248	20.96
EN	224	18.93
IS	405	34.23
ES	306	25.87

NOTES ▮ = 1% of sample

Table includes 973 Medical Technologists, 167 Laboratory Technologists, 31 Laboratory Assistants, and 12 Medical Laboratory Technicians.

Prepared as a part of the final report for "Application of the Myers-Briggs Type Indicator to Medicine and Other Health Professions," Contract No. 231-76-0051 for Health Resources Administration, HEW.

Table 22
Type Distributions of Students Who Scored High on SVIB Medical Technology and Dietitian Scales

Myers-Briggs Type Indicator — **Type Table**

UNIVERSITY STUDENTS IN HEALTH RELATED PROFESSIONS COURSE

HIGH SCORE ON SVIB MEDICAL TECHNOLOGIST

N = 134 FEMALES

	SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING
INTROVERTS JUDGING	ISTJ N = 17 % = 12.69	ISFJ N = 20 % = 14.93	INFJ N = 7 % = 5.22	INTJ N = 5 % = 3.73
INTROVERTS PERCEPTIVE	ISTP N = 0 % = 0.00	ISFP N = 8 % = 5.97	INFP N = 7 % = 5.22	INTP N = 1 % = 0.75
EXTRAVERTS PERCEPTIVE	ESTP N = 3 % = 2.24	ESFP N = 5 % = 3.73	ENFP N = 11 % = 8.21	ENTP N = 4 % = 2.99
EXTRAVERTS JUDGING	ESTJ N = 14 % = 10.45	ESFJ N = 23 % = 17.16	ENFJ N = 6 % = 4.48	ENTJ N = 3 % = 2.24

	N	PERCENT	RATIO
E	69	51.49	0.81***
I	65	48.51	1.34***
S	90	67.16	1.21**
N	44	32.84	0.74**
T	47	35.07	1.30*
F	87	64.93	0.89*
J	95	70.90	1.17**
P	39	29.10	0.74**
IJ	49	36.57	1.62***
IP	16	11.94	0.88
EP	23	17.16	0.66**
EJ	46	34.33	0.91
ST	34	25.37	1.34*
SF	56	41.79	1.14
NF	31	23.13	0.64***
NT	13	9.70	1.19
SJ	74	55.22	1.36***
SP	16	11.94	0.80
NP	23	17.16	0.70*
NJ	21	15.67	0.79
TJ	39	29.10	1.36*
TP	8	5.97	1.05
FP	31	23.13	0.68**
FJ	56	41.79	1.07
IN	20	14.93	1.04
EN	24	17.91	0.59***
IS	45	33.58	1.54***
ES	45	33.58	1.00

NOTES: ▮ = 1% of sample
Sample includes 134 females scoring high (A = T score 48+) on the Medical Technologist Scale of the Strong Vocational Interest Blank T398. They were among 528 females enrolled in a course entitled Introduction to the Health Related Professions at the University of Florida between 1973 and 1976. Data collected by M. H. McCaulley & course faculty.
Ratio = % with High Score : % of all females.
For all tables in this report, * $p < .05$, ** $p < .01$ and *** $p < .001$.

Myers-Briggs Type Indicator — **Type Table**

UNIVERSITY STUDENTS IN HEALTH RELATED PROFESSIONS COURSE

HIGH SCORE ON SVIB DIETITIAN

N = 75 FEMALES

	SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING
INTROVERTS JUDGING	ISTJ N = 3 % = 4.00	ISFJ N = 4 % = 5.33	INFJ N = 5 % = 6.67	INTJ N = 1 % = 1.33
INTROVERTS PERCEPTIVE	ISTP N = 0 % = 0.0	ISFP N = 4 % = 5.33	INFP N = 2 % = 2.67	INTP N = 1 % = 1.33
EXTRAVERTS PERCEPTIVE	ESTP N = 1 % = 1.33	ESFP N = 4 % = 5.33	ENFP N = 7 % = 9.33	ENTP N = 0 % = 0.0
EXTRAVERTS JUDGING	ESTJ N = 13 % = 17.33	ESFJ N = 16 % = 21.33	ENFJ N = 9 % = 12.00	ENTJ N = 5 % = 6.67

	N	PERCENT	RATIO
E	55	73.33	1.15
I	20	26.67	0.74
S	45	60.00	1.08
N	30	40.00	0.90
T	24	32.00	1.18
F	51	68.00	0.93
J	56	74.67	1.24**
P	19	25.33	0.64**
IJ	13	17.33	0.77
IP	7	9.33	0.68
EP	12	16.00	0.62*
EJ	43	57.33	1.51***
ST	17	22.67	1.20
SF	28	37.33	1.02
NF	23	30.67	0.84
NT	7	9.33	1.15
SJ	36	48.00	1.18
SP	9	12.00	0.80
NP	10	13.33	0.54*
NJ	20	26.67	1.34
TJ	22	29.33	1.37
TP	2	2.67	0.47
FP	17	22.67	0.67*
FJ	34	45.33	1.16
IN	9	12.00	0.83
EN	21	28.00	0.93
IS	11	14.67	0.67
ES	34	45.33	1.34*

NOTES: ▮ = 1% of sample
Sample includes 75 females scoring high (A = T score 48+) on the Dietitian Scale of the Strong Vocational Interest Blank T398.
They were among 528 females enrolled in a course entitled Introduction to the Health Related Professions at the University of Florida between 1973 and 1976. Data collected by M. H. McCaulley & course faculty.
Ratio = % with High Score : % of all females.
For all tables in this report, * $p < .05$, ** $p < .01$ and *** $p < .001$.

d. Sex Differences in Students of Clinical Laboratory Services

Of the 705 students, type distributions can be made for 341 females and 81 males. Females have significantly more introverts (54% compared to 40% for males) and more feeling types (62% compared to 47%). There are nonsignificant differences in the numbers of sensing types (60% for females compared to 57% for males) and judging types (60% for females, 72% for males).

The -S-J types account for 48% of the male and 41% of the female samples. The three most frequent male types are ESTJ, ESFJ and ENTJ which together account for 43% of the male students. The three most frequent female types are ISFJ, ESFJ and ISFP which account for 35% of the female sample.

The tough-minded --TJ types account for 43% of the male sample, and 27% of the female sample.

Based on these early data, males entering the field are more likely to gravitate to leadership and management positions, since they have relatively more of the E--J and --TJ types among them.

In summary, Clinical Laboratory Services, like Pharmacy, attracts people interested in the scientific and technical aspects of health care, and who wish to carry out their duties in a systematic and organized fashion. Males entering the field appear to be more likely to move into management positions while females are of the types more interested in providing patient services. Although both pharmacy and clinical laboratory services attract about equal numbers of extraverts and introverts, both fields are relatively more attractive to introverts. The Strong Vocational Interest Blank scale for Medical Technologist picks up the types who actually enter the field.

Clinical Laboratory Services appear to be attracting more of the types who should have the motivation and talents for the careful carrying out of exacting procedures. It will be interesting to learn about satisfaction and competence of the substantial numbers of innovative and spontaneous students who are also training in this field.

2. Dietetics and Nutrition

The 215 students in the sample are primarily from Illinois, Ohio and Florida. They are 66% extraverts, 56% sensing types, 76% feeling types, and 69% judging types.

a. Comparisons with High School Students

Compared to the high school sample, students in Dietetic and Nutritional Services have significantly more extraverts (1.17**) feeling types (1.17***) and judging types (1.59***). The four types which extravert feeling have a significant attraction for this field (--FJ 2.06***) and account for 52% of all students.

Table 23
Comparison of Students and Practitioners in Dietetics and Nutritional Services

Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF STUDENTS IN

DIETETIC AND NUTRITIONAL SERVICES

N = 215

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N= 11 %= 5.12	ISFJ N= 24 %= 11.16	INFJ N= 8 %= 3.72	INTJ N= 6 %= 2.79	JUDGING / INTROVERTS
ISTP N= 2 %= 0.93	ISFP N= 9 %= 4.19	INFP N= 10 %= 4.65	INTP N= 3 %= 1.40	PERCEPTIVE / INTROVERTS
ESTP N= 2 %= 0.93	ESFP N= 12 %= 5.58	ENFP N= 20 %= 9.30	ENTP N= 8 %= 3.72	PERCEPTIVE / EXTRAVERTS
ESTJ N= 13 %= 6.05	ESFJ N= 48 %= 22.33	ENFJ N= 32 %= 14.88	ENTJ N= 7 %= 3.26	JUDGING / EXTRAVERTS

	N	Percent
E	142	66.05
I	73	33.95
S	121	56.28
N	94	43.72
T	52	24.19
F	163	75.81
J	149	69.30
P	66	30.70
IJ	49	22.79
IP	24	11.16
EP	42	19.53
EJ	100	46.51
ST	28	13.02
SF	93	43.26
NF	70	32.56
NT	24	11.16
SJ	96	44.65
SP	25	11.63
NP	41	19.07
NJ	53	24.65
TJ	37	17.21
TP	15	6.98
FP	51	23.72
FJ	112	52.09
IN	27	12.56
EN	67	31.16
IS	46	21.40
ES	75	34.88

NOTES: ▮ = 1% of sample

Table includes 215 dietetics students.

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Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF PRACTITIONERS IN

DIETETIC AND NUTRITIONAL SERVICES

N = 241

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N= 27 %= 11.20	ISFJ N= 35 %= 14.52	INFJ N= 10 %= 4.15	INTJ N= 8 %= 3.32	JUDGING / INTROVERTS
ISTP N= 10 %= 4.15	ISFP N= 7 %= 2.90	INFP N= 18 %= 7.47	INTP N= 4 %= 1.66	PERCEPTIVE / INTROVERTS
ESTP N= 7 %= 2.90	ESFP N= 11 %= 4.56	ENFP N= 12 %= 4.98	ENTP N= 6 %= 2.49	PERCEPTIVE / EXTRAVERTS
ESTJ N= 27 %= 11.20	ESFJ N= 26 %= 10.79	ENFJ N= 14 %= 5.81	ENTJ N= 19 %= 7.88	JUDGING / EXTRAVERTS

	N	Percent
E	122	50.62
I	119	49.38
S	150	62.24
N	91	37.76
T	108	44.81
F	133	55.19
J	166	68.88
P	75	31.12
IJ	80	33.20
IP	39	16.18
EP	36	14.94
EJ	86	35.68
ST	71	29.46
SF	79	32.78
NF	54	22.41
NT	37	15.35
SJ	115	47.72
SP	35	14.52
NP	40	16.60
NJ	51	21.16
TJ	81	33.61
TP	27	11.20
FP	48	19.92
FJ	85	35.27
IN	40	16.60
EN	51	21.16
IS	79	32.78
ES	71	29.46

NOTES: ▮ = 1% of sample

Table includes 218 dietitians and 23 nutritionists.

Prepared as a part of the final report for "Application of the Myers-Briggs Type Indicator to Medicine and Other Health Professions," Contract No. 231-76-0051 for Health Resources Administration, HEW.

b. Comparisons with College Freshmen

Compared to the college freshmen of the CAPT data bank, students in dietetic and nutritional services have significantly more extraverts (1.20**), feeling types (1.13**) and judging types (1.31***).

The two types most frequent among the students are ESFJ and ENFJ; alone they account for 37% of the sample. These extraverted feeling types in theory are highly motivated to making the world better for other people.

c. SVIB Dietician Scale Compared to Student Distributions

Table 8 shows that correlations of the SVIB scale for interest in becoming a Dietician is correlated with MBTI continuous scores for E, S, T and J.

The type distribution for the 75 Health Related Professions females who scored high on SVIB Dietitican shows 73% extraverts, 60% sensing types, 68% feeling types and 75% judging types. The --FJ types are 45% of the sample (compared with 52% of actual students). The most frequent type in both samples is ESFJ, and the weight of both tables is in the E--J types (57% for SVIB, 47% for students.) The SVIB scale, therefore, well represents the students actually entering training.

In summary, Dietetics and Nutritional Services, based on our small preliminary sample, is particularly attractive to the action-oriented feeling types who have a strong drive to get things accomplished in the real world. The field does not attract contemplative people whose main goal is understanding events. The types attracted to this field can accomplish tasks rapidly. Their main problem can be that in their push for action they may not take time to understand situations in depth, and may misjudge the wishes and motivations of others whom they are trying to help. Their forceful style can seem overpowering to less forceful types, causing these to resist what they see as undue pressure.

3. Occupational Therapy

The 684 students in the Occupational Therapy sample come primarily from Illinois, Ohio and Florida.

Because of its practical application of art, and because of its concern with emotional as well as physical well-being, the types in occupational therapy were expected to be similar to types in the arts and behavioral sciences--i.e., more -NF- types with their special interest in communication were expected to be found in the occupational therapy students.

The students are 61% extraverts, 60% intuitives, 77% feeling types, and 51% perceptive types. The -NF- group account for 48% of students.

Table 24
Comparison of Students and Practitioners in Occupational Therapy

Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF STUDENTS IN
OCCUPATIONAL THERAPY
N = 684

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N= 23 % = 3.36 ▮▮▮	ISFJ N= 67 % = 9.80 ▮▮▮▮▮▮▮▮▮▮	INFJ N= 37 % = 5.41 ▮▮▮▮▮	INTJ N= 12 % = 1.75 ▮▮	JUDGING INTROVERTS
ISTP N= 11 % = 1.61 ▮▮	ISFP N= 31 % = 4.53 ▮▮▮▮▮	INFP N= 63 % = 9.21 ▮▮▮▮▮▮▮▮▮	INTP N= 25 % = 3.65 ▮▮▮▮	PERCEPTIVE INTROVERTS
ESTP N= 7 % = 1.02 ▮	ESFP N= 28 % = 4.09 ▮▮▮▮	ENFP N=172 % = 25.15 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮	ENTP N= 14 % = 2.05 ▮▮	PERCEPTIVE EXTRAVERTS
ESTJ N= 30 % = 4.39 ▮▮▮▮	ESFJ N= 74 % = 10.82 ▮▮▮▮▮▮▮▮▮▮▮	ENFJ N= 53 % = 7.75 ▮▮▮▮▮▮▮▮	ENTJ N= 37 % = 5.41 ▮▮▮▮▮	JUDGING EXTRAVERTS

	N	Percent
E	415	60.67
I	269	39.33
S	271	39.62
N	413	60.38
T	159	23.25
F	525	76.75
J	333	48.68
P	351	51.32
IJ	139	20.32
IP	130	19.01
EP	221	32.31
EJ	194	28.36
ST	71	10.38
SF	200	29.24
NF	325	47.51
NT	88	12.87
SJ	194	28.36
SP	77	11.26
NP	274	40.06
NJ	139	20.32
TJ	102	14.91
TP	57	8.33
FP	294	42.98
FJ	231	33.77
IN	137	20.03
EN	276	40.35
IS	132	19.30
ES	139	20.32

NOTES: ▮ = 1% of sample

Table includes 684 occupational therapy students.

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Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF PRACTITIONERS IN
OCCUPATIONAL THERAPY
N = 157

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N= 14 % = 8.92 ▮▮▮▮▮▮▮▮▮	ISFJ N= 14 % = 8.92 ▮▮▮▮▮▮▮▮▮	INFJ N= 8 % = 5.10 ▮▮▮▮▮	INTJ N= 8 % = 5.10 ▮▮▮▮▮	JUDGING INTROVERTS
ISTP N= 2 % = 1.27 ▮	ISFP N= 9 % = 5.73 ▮▮▮▮▮▮	INFP N= 11 % = 7.01 ▮▮▮▮▮▮▮	INTP N= 11 % = 7.01 ▮▮▮▮▮▮▮	PERCEPTIVE INTROVERTS
ESTP N= 4 % = 2.55 ▮▮▮	ESFP N= 5 % = 3.18 ▮▮▮	ENFP N= 23 % = 14.65 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮	ENTP N= 6 % = 3.82 ▮▮▮▮	PERCEPTIVE EXTRAVERTS
ESTJ N= 10 % = 6.37 ▮▮▮▮▮▮	ESFJ N= 11 % = 7.01 ▮▮▮▮▮▮▮	ENFJ N= 8 % = 5.10 ▮▮▮▮▮	ENTJ N= 13 % = 8.28 ▮▮▮▮▮▮▮▮	JUDGING EXTRAVERTS

	N	Percent
E	80	50.96
I	77	49.04
S	69	43.95
N	88	56.05
T	68	43.31
F	89	56.69
J	86	54.78
P	71	45.22
IJ	44	28.03
IP	33	21.02
EP	38	24.20
EJ	42	26.75
ST	30	19.11
SF	39	24.84
NF	50	31.85
NT	38	24.20
SJ	49	31.21
SP	20	12.74
NP	51	32.48
NJ	37	23.57
TJ	45	28.66
TP	23	14.65
FP	48	30.57
FJ	41	26.11
IN	38	24.20
EN	50	31.85
IS	39	24.84
ES	30	19.11

NOTES: ▮ = 1% of sample

Table includes 157 occupational therapists.

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Table 25
Type Distributions of Students Who Scored High on SVIB Occupational Therapy and Radiologic Technology Scales

Myers-Briggs Type Indicator — **Type Table**

UNIVERSITY STUDENTS IN HEALTH RELATED PROFESSIONS COURSE

HIGH SCORE ON SVIB OCCUPATIONAL THERAPIST

N = 177 FEMALES

SENSING TYPES		INTUITIVE TYPES		
with THINKING	with FEELING	with FEELING	with THINKING	
ISTJ N= 6 %= 3.39 ▮▮▮	ISFJ N=15 %= 8.47 ▮▮▮▮▮▮▮▮	INFJ N=11 %= 6.21 ▮▮▮▮▮▮	INTJ N= 5 %= 2.82 ▮▮▮	JUDGING INTROVERTS
ISTP N= 1 %= 0.56 ▮	ISFP N= 8 %= 4.52 ▮▮▮▮	INFP N=10 %= 5.65 ▮▮▮▮▮▮	INTP N= 1 %= 0.56 ▮	PERCEPTIVE
ESTP N= 6 %= 3.39 ▮▮▮	ESFP N= 6 %= 3.39 ▮▮▮	ENFP N=39 %=22.03 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮	ENTP N= 0 %= 0.00	PERCEPTIVE EXTRAVERTS
ESTJ N= 7 %= 3.95 ▮▮▮▮	ESFJ N=21 %=11.86 ▮▮▮▮▮▮▮▮▮▮▮▮	ENFJ N=30 %=16.95 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮	ENTJ N=11 %= 6.21 ▮▮▮▮▮▮	JUDGING

	N	PERCENT	RATIO
E	120	67.80	1.06
I	57	32.20	0.89
S	70	39.[illegible]	0.71***
N	107	60.45	1.36***
T	37	20.90	0.77*
F	140	79.10	1.08*
J	106	59.89	0.99
P	71	40.11	1.01
IJ	37	20.90	0.93
IP	20	11.30	0.83
EP	51	28.81	1.11
EJ	69	38.98	1.03
ST	20	11.30	0.60**
SF	50	28.25	0.77**
NF	90	50.85	1.40***
NT	17	9.60	1.18
SJ	49	27.68	0.68***
SP	21	11.86	0.79
NP	50	28.25	1.15
NJ	57	32.20	1.62***
TJ	29	16.38	0.77*
TP	8	4.52	0.80
FP	63	35.59	1.05
FJ	77	43.50	1.12
IN	27	15.25	1.06
EN	80	45.20	1.50***
IS	30	16.95	0.78
ES	40	22.60	0.67***

NOTES: ▮ = 1% of sample

Sample includes 177 females scoring high (A = T score 48+) on the Occupational Therapist Scale of the Strong Vocational Interest Blank T398. They were among 528 females enrolled in a course entitled Introduction to the Health Related Professions at the University of Florida between 1973 and 1976. Data collected by M. H. McCaulley & course faculty.

Ratio = % with High Score : % of all females.

For all tables in this report, * $p < .05$, ** $p < .01$ and *** $p < .001$.

Myers-Briggs Type Indicator — **Type Table**

UNIVERSITY STUDENTS IN HEALTH RELATED PROFESSIONS COURSE

HIGH SCORE ON SVIB RADIOLOGIC TECHNOLOGIST

N = 286 FEMALES

SENSING TYPES		INTUITIVE TYPES		
with THINKING	with FEELING	with FEELING	with THINKING	
ISTJ N=25 %= 8.74 ▮▮▮▮▮▮▮▮▮	ISFJ N=33 %=11.54 ▮▮▮▮▮▮▮▮▮▮▮▮	INFJ N=12 %= 4.20 ▮▮▮▮	INTJ N= 6 %= 2.10 ▮▮	JUDGING INTROVERTS
ISTP N= 1 %= 0.35	ISFP N=16 %= 5.59 ▮▮▮▮▮▮	INFP N=15 %= 5.24 ▮▮▮▮▮	INTP N= 1 %= 0.35	PERCEPTIVE
ESTP N= 7 %= 2.45 ▮▮	ESFP N=19 %= 6.64 ▮▮▮▮▮▮▮	ENFP N=31 %=10.84 ▮▮▮▮▮▮▮▮▮▮▮	ENTP N= 7 %= 2.45 ▮▮	PERCEPTIVE EXTRAVERTS
ESTJ N=28 %= 9.79 ▮▮▮▮▮▮▮▮▮▮	ESFJ N=51 %=17.83 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮	ENFJ N=21 %= 7.34 ▮▮▮▮▮▮▮	ENTJ N=13 %= 4.55 ▮▮▮▮	JUDGING

	N	PERCENT	RATIO
E	177	61.89	0.97
I	109	38.11	1.05
S	180	62.94	1.13***
N	106	37.06	0.83***
T	88	30.77	1.14*
F	198	69.23	0.95*
J	189	66.08	1.09**
P	97	33.92	0.86**
IJ	76	26.57	1.18*
IP	33	11.54	0.85
EP	64	22.38	0.86*
EJ	113	39.51	1.04
ST	61	21.33	1.13
SF	119	41.61	1.14**
NF	79	27.62	0.76***
NT	27	9.44	1.16
SJ	137	47.90	1.18***
SP	43	15.03	1.00
NP	54	18.88	0.77***
NJ	52	18.18	0.91
TJ	72	25.17	1.18*
TP	16	5.59	0.98
FP	81	28.32	0.84**
FJ	117	40.91	1.05
IN	34	11.89	0.83
EN	72	25.17	0.84**
IS	75	26.22	1.20**
ES	105	36.71	1.09

NOTES: ▮ = 1% of sample

Sample includes 286 females scoring high (A = T score 48+) on the Radiologic Technologist Scale of the Strong Vocational Interest Blank T398. They were among 528 females enrolled in a course entitled Introduction to the Health Related Professions at the University of Florida between 1973 and 1976. Data collected by M. H. McCaulley & course faculty.

Ratio = % with High Score : % of all females.

For all tables in this report, * $p < .05$, ** $p < .01$ and *** $p < .001$.

a. Comparison of Occupational Therapy Students to High School Students

Compared to high school juniors and seniors, occupational therapy students are significantly more extraverts (1.08*), intuitive types (1.40***), feeling types (1.18***) and judging types (1.12**). The field is attractive to the enthusiastic and insightful -NF- types, having almost twice the expected numbers of INFJ (1.80***), ENFP (1.95***) and ENFJ (1.85***) and the expected number of INFP (.99). Action-oriented innovators, the EN-- types, are over-represented, with ENFP, ENFJ and ENTJ significantly attracted to occupational therapy; however, in this sample, ENTP, the fourth of the EN-- types, is significantly underrepresented. As would be expected, practical and matter-of-fact -ST- types are significantly underrepresented, as are the practical and spontaneous -S-P types.

b. Comparison of Occupational Therapy Students with College Freshmen

Compared to the 11,122 college freshmen in the CAPT data bank, occupational therapy students have significantly more extraverts (1.10**), intuitives (1.36***), feeling types (1.14***) and perceptive types (1.09*). As with the high school comparison, the -NF- college students are significantly more likely to enter this health-related profession.

ENFP is by far the most frequent type, alone accounting for 25% of the occupational therapy students.

c. Comparison of Student Sample to SVIB Occupational Therapist Scale

Table 8 shows that the SVIB scale scores are significantly correlated with MBTI preferences for E, N, F and P with the strongest relationship being intuition.

Of the health-related professions students who took both SVIB and the MBTI, 177 females reported high interest on the SVIB Occupational Therapist Scale. These were 68% extraverts, 60% intuitives, 79% feeling types and 60% judging types. The -NF- types account for 51% of the sample, and the practical and matter-of-fact -ST- types only 11%. The most frequent type is ENFP, alone accounting for 22% of the sample. The SVIB scores and the MBTI preferences for students in occupational therapy are, therefore, in substantial agreement.

In summary, Occupational Therapy attracts students of the types typically found in university programs in the arts and in psychology. They can be expected to be interested in the interpersonal aspects of health care, and patient communications. There are no data as yet to show whether the sensing types among them will have a greater interest in working with patients with physical disability while the intuitives are more interested in working with patients with emotional disturbances. The field has many action-oriented and innovative students who will want to try new methods of helping people develop their potential.

4. Physical Therapy

The 1091 physical therapy students are mainly from Florida, Illinois and Ohio. All but 93 were in programs training physical therapists; the 93 were learning to be physical therapy assistants. Most of the physical therapy students were in baccalaureate programs. Not all cases gave level of program, but 73 students stated they were in 2-year programs and 362 stated they were in 4-year programs.

Since physical therapy has more concern with physical movements than with the creativity and emotional health of patients, we expected more sensing types in physical therapy than in occupational therapy. Because of the amount of equipment used in physical therapy, we thought the -ST- types might find this field attractive.

Physical therapy students are 55% extraverts, 56% sensing types, 72% feeling types and 56% judging types.

a. Comparison of Physical Therapy Students with High School Students

The physical therapy students are not significantly different from high school students in the numbers of extraverts and sensing types. They have significantly more feeling types (1.10***) and judging types (1.29***) than high school students. The groups in high school significantly more likely to be found in physical therapy are the I--J (1.37***), and the --FJ (1.46***) types. All four types that extravert feeling are significantly more often found in physical therapy than in high school (ISFJ 1.24*, ESFJ 1.33***, INFJ 1.83*** and ENFJ 1.93***), along with the solid and dependable ISTJ types (1.42**). Types significantly less attracted to physical therapy are ISFP (.75*), INTP (.41***), ESTP (.44***) ESFP (.76*) and ENTP (.54**).

b. Comparison of Physical Therapy Students with College Freshmen

As with the high school comparisons, physical therapy students do not differ significantly from college freshmen in the numbers of extraverts and sensing types. They have significantly more feeling types (1.06**) and judging types (1.06*).

While the same groupings of types are significantly attracted to physical therapy in both high school and college, the competition of other fields appears to weaken the effects in the college comparisons. While the --FJ types are still significantly attracted to physical therapy (1.15**), the main contribution comes from INFJ (1.37*) and ENFJ (1.38**), ISTJ (1.28*) is the only other type significantly attracted to physical therapy in college students. INTP (.52**) and ESTJ (.71**) are significantly less attracted.

In absolute numbers, the six most frequent types are ESFJ, ENFP, ISFJ, ISTJ, INFP and ENFJ; together they account for 62% of students.

c. Comparison of Students in 2-Year and 4-Year Programs

There were no significant differences in type distributions of students in programs at the 2-year and 4-year levels.

Table 26
Comparison of Students and Practitioners in Physical Therapy

Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF STUDENTS IN
PHYSICAL THERAPY
N = 1091

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N= 95 %= 8.71	ISFJ N= 99 %= 9.07	INFJ N= 60 %= 5.50	INTJ N= 26 %= 2.38	JUDGING INTROVERTS
ISTP N= 34 %= 3.12	ISFP N= 63 %= 5.77	INFP N= 93 %= 8.52	INTP N= 18 %= 1.65	PERCEPTIVE
ESTP N= 21 %= 1.92	ESFP N= 80 %= 7.33	ENFP N=142 %= 13.02	ENTP N= 27 %= 2.47	PERCEPTIVE EXTRAVERTS
ESTJ N= 61 %= 5.59	ESFJ N=156 %= 14.30	ENFJ N= 88 %= 8.07	ENTJ N= 28 %= 2.57	JUDGING

	N	Percent
E	603	55.27
I	488	44.73
S	609	55.82
N	482	44.18
T	310	28.41
F	781	71.59
J	613	56.19
P	478	43.81
IJ	280	25.66
IP	208	19.07
EP	270	24.76
EJ	333	30.52
ST	211	19.34
SF	398	36.48
NF	383	35.11
NT	99	9.07
SJ	411	37.67
SP	198	18.15
NP	280	25.66
NJ	202	18.52
TJ	210	19.25
TP	100	9.17
FP	378	34.65
FJ	403	36.94
IN	197	18.06
EN	285	26.12
IS	291	26.67
ES	318	29.15

NOTES: ▮ = 1% of sample

Table includes 967 physical therapy students and 124 physical therapy assistants.

Prepared as a part of the final report for "Application of the Myers-Briggs Type Indicator to Medicine and Other Health Professions," Contract No. 231-76-0051 for Health Resources Administration, HEW.

Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF PRACTITIONERS IN
PHYSICAL THERAPY
N = 155

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N=20 %=12.90	ISFJ N=22 %=14.19	INFJ N= 6 %= 3.87	INTJ N= 1 %= 0.65	JUDGING INTROVERTS
ISTP N= 8 %= 5.16	ISFP N=12 %= 7.74	INFP N=19 %=12.26	INTP N= 3 %= 1.94	PERCEPTIVE
ESTP N= 3 %= 1.94	ESFP N= 8 %= 5.16	ENFP N=17 %=10.97	ENTP N= 5 %= 3.23	PERCEPTIVE EXTRAVERTS
ESTJ N= 3 %= 1.94	ESFJ N=14 %= 9.03	ENFJ N=12 %= 7.74	ENTJ N= 2 %= 1.29	JUDGING

	N	Percent
E	64	41.29
I	91	58.71
S	90	58.06
N	65	41.94
T	45	29.03
F	110	70.97
J	80	51.61
P	75	48.39
IJ	49	31.61
IP	42	27.10
EP	33	21.29
EJ	31	20.00
ST	34	21.94
SF	56	36.13
NF	54	34.84
NT	11	7.10
SJ	59	38.06
SP	31	20.00
NP	44	28.39
NJ	21	13.55
TJ	26	16.77
TP	19	12.26
FP	56	36.13
FJ	54	34.84
IN	29	18.71
EN	36	23.23
IS	62	40.00
ES	28	18.06

NOTES: ▮ = 1% of sample

Table includes 155 physical therapists.

Prepared as a part of the final report for "Application of the Myers-Briggs Type Indicator to Medicine and Other Health Professions," Contract No. 231-76-0051 for Health Resources Administration, HEW.

Table 27

Comparison of Type Distribution of Male and Female Students Scoring High on SVIB Physical Therapist Scale

Myers-Briggs Type Indicator Type Table

UNIVERSITY STUDENTS IN HEALTH RELATED PROFESSIONS COURSE

HIGH SCORE ON SVIB PHYSICAL THERAPIST

N = 339 FEMALES

SENSING TYPES with THINKING	 with FEELING	INTUITIVE TYPES with FEELING	 with THINKING		
ISTJ N = 23 % = 6.78 ▮▮▮▮▮▮▮	**ISFJ** N = 35 % = 10.32 ▮▮▮▮▮▮▮▮▮▮	**INFJ** N = 14 % = 4.13 ▮▮▮▮	**INTJ** N = 10 % = 2.95 ▮▮▮	JUDGING	INTROVERTS
ISTP N = 1 % = 0.29	**ISFP** N = 15 % = 4.42 ▮▮▮▮	**INFP** N = 19 % = 5.60 ▮▮▮▮▮▮	**INTP** N = 2 % = 0.59 ▮	PERCEPTIVE	
ESTP N = 10 % = 2.95 ▮▮▮	**ESFP** N = 23 % = 6.78 ▮▮▮▮▮▮▮	**ENFP** N = 46 % = 13.57 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮	**ENTP** N = 8 % = 2.36 ▮▮	PERCEPTIVE	EXTRAVERTS
ESTJ N = 31 % = 9.14 ▮▮▮▮▮▮▮▮▮	**ESFJ** N = 56 % = 16.52 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮	**ENFJ** N = 30 % = 8.85 ▮▮▮▮▮▮▮▮▮	**ENTJ** N = 16 % = 4.72 ▮▮▮▮▮	JUDGING	

	N	PERCENT	RATIO
E	220	64.90	1.02
I	119	35.10	0.97
S	194	57.23	1.03
N	145	42.77	0.96
T	101	29.79	1.10
F	238	70.21	0.96
J	215	63.42	1.05
P	124	36.58	0.92
IJ	82	24.19	1.07
IP	37	10.91	0.80*
EP	87	25.66	0.99
EJ	133	39.23	1.04
ST	65	19.17	1.01
SF	129	38.05	1.04
NF	109	32.15	0.88**
NT	36	10.62	1.30**
SJ	145	42.77	1.06
SP	49	14.45	0.97
NP	75	22.12	0.90
NJ	70	20.65	1.04
TJ	80	23.60	1.10
TP	21	6.19	1.09
FP	103	30.38	0.90*
FJ	135	39.82	1.02
IN	45	13.27	0.92
EN	100	29.50	0.98
IS	74	21.83	1.00
ES	120	35.40	1.05

NOTES ▮ = 1% of sample

Sample includes 339 females scoring high (A = T score 48+) on the Physical Therapist Scale of the Strong Vocational Interest Blank T398. They were among 528 females enrolled in a course entitled Introduction to the Health Related Professions at the University of Florida between 1973 and 1976. Data collected by M. H. McCaulley & course faculty.

Ratio = % with High Score ÷ % of all females.

For all tables in this report, * $p < .05$, ** $p < .01$ and *** $p < .001$.

Myers-Briggs Type Indicator Type Table

UNIVERSITY STUDENTS IN HEALTH RELATED PROFESSIONS COURSE

HIGH SCORE ON SVIB PHYSICAL THERAPIST

N = 69 MALES

SENSING TYPES with THINKING	 with FEELING	INTUITIVE TYPES with FEELING	 with THINKING		
ISTJ N = 4 % = 5.80 ▮▮▮▮▮▮	**ISFJ** N = 11 % = 15.94 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮	**INFJ** N = 4 % = 5.80 ▮▮▮▮▮▮	**INTJ** N = 2 % = 2.90 ▮▮▮	JUDGING	INTROVERTS
ISTP N = 1 % = 1.45 ▮	**ISFP** N = 3 % = 4.35 ▮▮▮▮	**INFP** N = 3 % = 4.35 ▮▮▮▮	**INTP** N = 1 % = 1.45 ▮	PERCEPTIVE	
ESTP N = 2 % = 2.90 ▮▮▮	**ESFP** N = 6 % = 8.70 ▮▮▮▮▮▮▮▮▮	**ENFP** N = 6 % = 8.70 ▮▮▮▮▮▮▮▮▮	**ENTP** N = 1 % = 1.45 ▮	PERCEPTIVE	EXTRAVERTS
ESTJ N = 6 % = 8.70 ▮▮▮▮▮▮▮▮▮	**ESFJ** N = 8 % = 11.59 ▮▮▮▮▮▮▮▮▮▮▮▮	**ENFJ** N = 4 % = 5.80 ▮▮▮▮▮▮	**ENTJ** N = 7 % = 10.14 ▮▮▮▮▮▮▮▮▮▮	JUDGING	

	N	PERCENT	RATIO
E	40	57.97	1.04
I	29	42.03	0.95
S	41	59.42	1.01
N	28	40.58	0.99
T	24	34.78	0.82
F	45	65.22	1.13
J	46	66.67	1.01
P	23	33.33	0.98
IJ	21	30.43	1.10
IP	8	11.59	0.70
EP	15	21.74	1.25
EJ	25	36.23	0.94
ST	13	18.84	0.73*
SF	28	40.58	1.23*
NF	17	24.64	1.01
NT	11	15.94	0.96
SJ	29	42.03	1.01
SP	12	17.39	1.00
NP	11	15.94	0.96
NJ	17	24.64	1.01
TJ	19	27.54	0.87
TP	5	7.25	0.66
FP	18	26.09	1.14
FJ	27	39.13	1.13
IN	10	14.49	0.88
EN	18	26.09	1.07
IS	19	27.54	1.00
ES	22	31.88	1.01

NOTES: ▮ = 1% of sample

Sample includes 69 males scoring high (A = T score 48+) on the Physical Therapist Scale of the Strong Vocational Interest Blank T399. They were among 127 males enrolled in a course entitled Introduction to the Health Related Professions at the University of Florida between 1973 and 1976. Data collected by M. H. McCaulley & course faculty.

Ratio = % with High Score ÷ % of all males.

For all tables in this report, * $p < .05$, ** $p < .01$ and *** $p < .001$.

d. Comparison of Student Sample to SVIB Physical Therapist Scale

Table 8 shows correlations between SVIB Physical Therapist scale scores and MBTI continuous scores. For female students in the health related professions, the SVIB scale is significantly associated with MBTI preferences for S, T and J. For males, the only significant association is with F.

Among the 528 female health-related students, 339 reported a high interest on the SVIB Physical Therapist Scale. The distribution is similar to that of 361 female physical therapy students. Like the other comparisons with SVIB, the distributions have more extraverts than actual student distributions. This may be a result of the composition of the health-related classes, not a characteristic of the SVIB as an instrument. Extraverts are 65% of the Physical Therapist interest group, and 53% of the student group. Sensing types hold a slight majority in both (57% SVIB, 55% students). Feeling types are in the majority in both (70% SVIB, 77% students). Preference for judging is greater in the SVIB sample (63% compared to 54% in female students). The most frequent types in the SVIB table are ESFJ, ENFP, ISFJ, ESTJ and ENFJ (58% of sample). The most frequent types in female physical therapy students are ENFP, ESFJ, ISFJ, INFP and ISFP (56% of the student sample). The top three types appear in both groups.

Among the 127 male health-related professions students, 69 reported a high interest on the SVIB Physical Therapist Scale. The SVIB and actual distributions are not so similar as with the females. In these two small samples, the SVIB males are 58% extraverts, the male students are 61% introverts. The SVIB males have more sensing types (59% compared to 49% for the students). The distributions are similar in the number of feeling types (65% for SVIB, 63% for students). Both samples have a majority of judging types, with the greater numbers in the SVIB (67% compared to 52%). The weight in the SVIB sample is in the -S-J and -SF- types (55% of the sample) and in the students, the weight is in the I--J and -NF- types (63% of the sample). It is probable that with larger samples the SVIB distributions will prove more representative.

e. Sex Differences in Physical Therapy Students

Of the 1091 physical therapy students, distributions could be made for 361 females and 98 males.

There are significantly more introverts in the male sample (61% for males, 47% for females). There is no significant difference in sensing (49% for males, 55% for females) or judging (52% for males, 54% for females). The expected difference on TF appears, with 63% of males preferring feeling and 77% of females. The TF difference shows up particularly in the greater proportion of -ST- males and -SF- females, and in the greater number of --TP types in males. The male sample has significantly more of the academic IN types, and the female sample has more pragmatic ES--'s.

In summary, physical therapy attracts the types who are concerned with people and wish to perform activities in a systematic and organized way. Most of the students fall in the -SF- and -NF- columns, with females more likely to appear in the sympathetic and friendly -SF- group, and the males in the enthusiastic and insightful -NF- types. There are fewer of the technically-oriented -ST- group than were expected.

The SVIB appears to represent the physical therapy students better for females than for males. The small sample of male students, which may not prove to be representative, has more types with academic and psychological interest than are found in the female students.

In comparison with occupational therapy, the physical therapy students do tend to have more sensing types, as expected. The two fields are more similar than different, however. When there are disagreements, the predictions from type distributions are that the physical therapists will be asking for more organization and attention to detail, while the occupational therapists will be calling for bold new leaps into creativity and spontaneity.

5. Physician Extender Services

The 310 students in this category are primarily from Florida, South Carolina and Georgia. They are in programs for Medex, Physician Assistants or Physician Extenders.

These new programs are interesting to study. Because they are new, they may be attracting the innovative intuitive types who like to be on the forefront of events. However, because they are designed to relieve physicians of important but time-consuming detail, they may (and perhaps should) attract the quiet, careful, detail-minded types, especially those called by Myers the "super-dependables"—ISTJ and ISFJ.

In theory, sensing types can find pleasure in day-to-day repetitive activities, while intuitive types are more easily bored with tasks once the challenge is gone.

The data on these students is regional and preliminary. A consortium of schools is beginning a longitudinal study in 1977; in a year or two more solid information on the selection, training, and placement of these students should become available. (Inquiries about the consortium may be directed to Dr. Suzanne Greenberg, Robinson 202, Northeastern University, Boston, MA 02115.)

Because there are so few practitioners in this group, data on physician extenders will be presented for the composite of 323 students and practitioners. The sample has 64% extraverts, 57% sensing types, 51% thinking types, and 70% judging types. ESTJ and ESFJ are 33% of the physician extender sample.

Table 28

COMPOSITE OF STUDENTS AND PRACTITIONERS IN
PHYSICIAN EXTENDER SERVICES
N = 323

	SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING
INTROVERTS JUDGING	*ISTJ* N = 30 % = 9.29 ▮▮▮▮▮▮▮▮▮	*ISFJ* N = 23 % = 7.12 ▮▮▮▮▮▮▮	*INFJ* N = 8 % = 2.48 ▮▮	*INTJ* N = 15 % = 4.64 ▮▮▮▮▮
INTROVERTS PERCEPTIVE	*ISTP* N = 7 % = 2.17 ▮▮	*ISFP* N = 5 % = 1.55 ▮▮	*INFP* N = 16 % = 4.95 ▮▮▮▮▮	*INTP* N = 12 % = 3.72 ▮▮▮▮
EXTRAVERTS PERCEPTIVE	*ESTP* N = 9 % = 2.79 ▮▮▮	*ESFP* N = 6 % = 1.86 ▮▮	*ENFP* N = 25 % = 7.74 ▮▮▮▮▮▮▮▮	*ENTP* N = 17 % = 5.26 ▮▮▮▮▮
EXTRAVERTS JUDGING	*ESTJ* N = 54 % = 16.72 ▮▮▮▮▮▮▮▮▮▮ ▮▮▮▮▮▮▮	*ESFJ* N = 51 % = 15.79 ▮▮▮▮▮▮▮▮▮▮ ▮▮▮▮▮▮	*ENFJ* N = 24 % = 7.43 ▮▮▮▮▮▮▮	*ENTJ* N = 21 % = 6.50 ▮▮▮▮▮▮▮

	N	Percent
E	207	64.09
I	116	35.91
S	185	57.28
N	138	42.72
T	165	51.08
F	158	48.92
J	226	69.97
P	97	30.03
IJ	76	23.53
IP	40	12.38
EP	57	17.65
EJ	150	46.44
ST	100	30.96
SF	85	26.32
NF	73	22.60
NT	65	20.12
SJ	158	48.92
SP	27	8.36
NP	70	21.67
NJ	68	21.05
TJ	120	37.15
TP	45	13.93
FP	52	16.10
FJ	106	32.82
IN	51	15.79
EN	87	26.93
IS	65	20.12
ES	120	37.15

NOTES: ▮ = 1% of sample

Table includes 310 students (243 physician assistant, 67 MEDEX) and 13 physician assistant practitioners. The CAPT data bank supplied 128 cases; 195 are from other sources.

Prepared as a part of the final report for "Application of the Myers-Briggs Type Indicator to Medicine and Other Health Professions," Contract No. 231-76-0051 for Health Resources Administration, HEW.

a. Comparison of Physician Extenders and High School Students

Compared to high school juniors and seniors on the CAPT data bank, the composite physician extender sample has significantly more extraverts (1.14***), thinking types (1.46***) and judging types (1.61***). The organized and detail-minded -S-J types account for 49% of the sample, significantly more than in the high school students (1.56***). Six of the 8 judging types have significantly more than expected from the high school distributions (only ISFJ and INFJ have ratios at expected levels.) All four of the gentle --FP types are significantly under-represented (.41***).

The most representative description of the attractiveness of the physician extender programs compared to high school students is that the confident and decisive E--J and the tough-minded --TJ types are significantly attracted to this new health career.

b. Comparison of Physician Extenders to College Freshmen

Compared to college freshmen on the CAPT data bank, physician extenders have significantly more extraverts, thinking types and judging types. The same significant relationships appear as in the high school comparisons: physician extenders have more E--J, more --TJ and -S-J types.

c. Comparison of Applicants and Students

Data are available from only one program which has high science requirements. When students are compared with the applicant pool for this program, selection has favored the science-minded -NT- types and significantly fewer of the sympathetic and friendly -SF- applicants were chosen. The overall composite of 323 physician extenders has significantly more pragmatic ES-- types than are found in college students. The selection of this one program favored their opposites, the academic IN types.

Obviously, more data from more schools, particularly schools with different admissions criteria and different goals, will be needed before the relationship of MBTI types to selection is clear.

In summary, these first physician extender programs are attracting action-oriented, decisive, organized and tough-minded types. Many are pragmatists who will want to get the needed tasks accomplished quickly. The field also has a group of scientific types who, one wonders, may have wished to become physicians.

It is useful in this new field to train all 16 types of students in sufficient numbers to permit studies of the matching of physicians with extenders. This current sample is a forceful group, and it is intriguing to wonder how physicians of the gentler types would cope with them. Since half of the extenders are in the four -S-J types, they should be motivated to fulfill one of the missions of physician extender programs—to organize and handle details.

6. Psychological and Counseling Services

The intent of this grouping of MBTI cases was to bring together students and practitioners who perform psychological or counseling services, whether or not they were directly related to health delivery. Because of lack of precision in the early CAPT coding systems, some useful differentiations cannot be made.

In theory, the groups within this broad category should have large numbers of the types who share intuition and feeling, the -NF- types. Intuition gives an interest in seeing meanings and subtle relationships, and feeling gives concern for the human aspect of problems. Terms used to characterize the -NF- group are "enthusiastic and insightful," "humanistic," or the "possibilities-for-people" types. The -NF- types are found in the arts, the humanities, the behavioral sciences, and in fields where communication skills are important.

Table 29 shows the percentages of I, N, F and P, and of -ST-, -SF-, -NF- and -NT- in the male and female student and practitioner groups. The prediction for large numbers of -NF- types leads to a further expectation that types with opposite preferences, the practical and matter-of-fact -ST- people, will show less interest in psychological and counseling services.

Professions in this group which involve information-giving or mastery of paperwork were expected to have proportionately more sensing types than professions whose services are mainly concerned with counseling or psychotherapy.

Table 29 shows that most counseling services are fairly evenly divided between extraverts and introverts, except for school-related counseling where extraverts are twice as frequent as introverts. All groups have a clear majority of intuitive types, as expected, with the psychologists having over 80%. Feeling types are also in the majority in all groups, male and female. From one-half to two-thirds of the groups are perceptive types.

As predicted, the four NF types account for from half to two thirds of the members of each group, with the lowest percentage in most groups being the -ST- types.

a. Comparison with High School Students

Students and practitioners have significantly more N, F and the groups that stem from them, -NF-, -NT-, -N-P, -N-J, IN-- and EN-- than high school groups. The pattern holds when males are compared to male high school students, and females are compared to female high school students.

b. Comparison with College Students

The above patterns hold, for college freshmen, and even when the psychological and counseling groups are compared to college and graduate students.

Table 29
MBTI Preferences and Combinations of Perception and Judgment for Psychological and Counseling Services

Group	Number	Percentages in Each MBTI Category							
		I	N	F	P	ST	SF	NF	NT
All students and practitioners	2453	46	67	69	54	14	19	50	17
All Students	1247	48	69	70	59	12	19	51	18
All Practitioners	1206	43	65	67	50	16	19	48	17
Psychology	1426	48	72	67	58	12	16	51	21
Students—all levels	1137	48	70	69	59	12	18	51	19
Males	393	54	75	62	62	12	12	50	25
Females	450	43	77	73	61	9	14	59	18
Psychologists	289	51	81	58	56	11	8	50	31
Males	77	40	87	66	51	6	6	60	27
Females	49	45	88	67	63	4	8	59	29
Clinical Psychology—Students & Practitioners	153	60	88	73	59	5	7	66	22
Rehabilitation Counseling	148	49	61	79	58	11	28	51	10
Students	98	52	62	84	60	7	31	53	9
Males	35	49	66	77	51	11	23	54	11
Females	63	54	60	87	65	5	35	52	8
Counselors	50	42	60	70	54	18	22	48	12
All Counselors—Students & Practitioners	766	40	63	72	49	16	21	51	12
Counselors: General	359	44	67	76	53	13	20	57	11
Males	148	55	61	68	50	17	22	46	15
Females	211	36	72	82	54	10	18	64	8
School-Related	287	36	61	70	47	17	22	48	13
Males	115	35	56	67	45	19	25	42	14
Females	163	34	69	71	51	16	15	55	14
Junior College & University	67	36	58	58	43	24	18	40	18
Vocational-Employment	53	40	53	68	45	21	26	42	11
Para-Professional & Volunteer	126	44	40	65	42	22	37	28	13

Table 30
Comparison of Students and Practitioners in Psychological and Counseling Services

COMPOSITE OF STUDENTS IN
PSYCHOLOGICAL AND COUNSELING SERVICES
N = 1247

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N= 49 %= 3.93	ISFJ N= 76 %= 6.09	INFJ N= 66 %= 5.29	INTJ N= 51 %= 4.09	INTROVERTS JUDGING
ISTP N= 27 %= 2.17	ISFP N= 48 %= 3.85	INFP N=225 %= 18.04	INTP N= 56 %= 4.49	INTROVERTS PERCEPTIVE
ESTP N= 25 %= 2.00	ESFP N= 42 %= 3.37	ENFP N=243 %= 19.49	ENTP N= 67 %= 5.37	EXTRAVERTS PERCEPTIVE
ESTJ N= 50 %= 4.01	ESFJ N= 68 %= 5.45	ENFJ N=104 %= 8.34	ENTJ N= 50 %= 4.01	EXTRAVERTS JUDGING

	N	Percent
E	649	52.04
I	598	47.96
S	385	30.87
N	862	69.13
T	375	30.07
F	872	69.93
J	514	41.22
P	733	58.78
IJ	242	19.41
IP	356	28.56
EP	377	30.23
EJ	272	21.81
ST	151	12.11
SF	234	18.77
NF	638	51.16
NT	224	17.96
SJ	243	19.49
SP	142	11.39
NP	591	47.39
NJ	271	21.73
TJ	200	16.04
TP	175	14.03
FP	558	44.75
FJ	314	25.18
IN	398	31.92
EN	464	37.21
IS	200	16.04
ES	185	14.84

NOTES: ▮ = 1% of sample

Table includes 1247 students (1137 undergraduates and graduates in psychology, 98 in rehabilitation counseling, and 12 in other counseling).

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COMPOSITE OF PRACTITIONERS IN
PSYCHOLOGICAL AND COUNSELING SERVICES
N = 1206

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N= 70 %= 5.80	ISFJ N=70 %= 5.80	INFJ N= 76 %= 6.30	INTJ N= 40 %= 3.32	INTROVERTS JUDGING
ISTP N= 20 %= 1.66	ISFP N= 40 %= 3.32	INFP N= 160 %= 13.27	INTP N= 42 %= 3.48	INTROVERTS PERCEPTIVE
ESTP N= 15 %= 1.24	ESFP N= 45 %= 3.73	ENFP N= 219 %= 18.16	ENTP N= 60 %= 4.98	EXTRAVERTS PERCEPTIVE
ESTJ N= 87 %= 7.21	ESFJ N= 78 %= 6.47	ENFJ N= 124 %= 10.28	ENTJ N= 60 %= 4.98	EXTRAVERTS JUDGING

	N	Percent
E	688	57.05
I	518	42.95
S	425	35.24
N	781	64.76
T	394	32.67
F	812	67.33
J	605	50.17
P	601	49.83
IJ	256	21.23
IP	262	21.72
EP	339	28.11
EJ	349	28.94
ST	192	15.92
SF	233	19.32
NF	579	48.01
NT	202	16.75
SJ	305	25.29
SP	120	9.95
NP	481	39.88
NJ	300	24.88
TJ	257	21.31
TP	137	11.36
FP	464	38.47
FJ	348	28.86
IN	318	26.37
EN	463	38.39
IS	200	16.58
ES	225	18.66

NOTES: ▮ = 1% of sample

Table includes 359 general counselors, 289 psychologists, 287 school counselors, 50 rehabilitation counselors, 41 junior college counselors, 35 psychological assistants, 29 employment counselors, 27 psychiatric attendants, 26 university counselors, 24 vocational counselors, 12 mental health technicians, 26 mental health volunteers, and 1 camp counselor.

Table prepared as part of the final report of "Application of the Myers-Briggs Type Indicator to Medicine and Other Health Professions," Contract 231-76-0051, for the Health Resources Administration, HEW. CAPT 8-77

c. Comparison with SVIB Psychology and Counseling Scales

Table 8 shows that the MBTI preferences associated with the SVIB Guidance Counselor scale are extraversion and intuition, with the Rehabilitation Counselor scale, extraversion, intuition and feeling, and with the Psychologist scale, intuition and thinking. (It may be remembered from the example of Perry in Part I of this report that experimental psychologists have relatively more sensing and thinking types, and clinical psychologists relatively more intuitive and feeling types.)

So few of the health-related students scored high on any of the counseling scales that type distributions were not made.

The SVIB and MBTI agree that intuition is a key variable in psychological and counseling services.

d. Sex Differences in Psychological and Counseling Services

The expected sex difference on TF appears; both males and females have a majority of feeling types, but even so females have significantly more feeling types than males. In some groups, females also have more intuitive types. (People often wonder if there is a sex difference in intuition, because of the phrase in common use, "women's intuition." There is no sex difference for the SN scale and both males and females are scored with the same keys and scoring weights.)

In summary, there is great consistency in the Psychological and Counseling Services groups. Intuition is favored over sensing, with the largest number of intuitives in psychology and relatively fewer in the fields where counseling is concerned with practical matters. In light of the large number of health fields where the -S-J types have been in the majority, it is likely that the -NFP types so frequent in psychological and counseling services often feel misunderstood and unappreciated. Those who are working on health care teams might well take pains to make their recommendations practical and brief.

These groups, like the others described earlier, have all 16 types, but few other groups are as one-sided. When four of the MBTI types account for more than half of a group, there is danger that biases may occur. There will be too few of the opposite types to alert the majority to their blindspots. Directors of training programs may find it useful to bring students in contact with -ST- types and -S-J types. The -ST- students in these programs can also be considered a valuable resource for the entire group.

Other health fields with similar type distributions include social work, occupational therapy, and to some extent, speech pathology. In medicine, psychiatry has a similar type distribution, though with fewer feeling types and more thinking types than most of the groups in the psychological and counseling services category.

7. Radiologic Technology

The sample of 267 in Radiologic Technology is primarily a student sample, with 214 radiologic technology students and 53 practitioners.

The student sample has 61% extraverts, 59% sensing types, 69% feeling types and 50% judging types. Two type groupings have substantial numbers of students—the organized and detail-minded -S-J types and the sympathetic and adaptable --FP types. These 8 types account for 76% of the student sample. The three most frequent types in absolute numbers are ESFJ, ESFP and ENFP; together they account for 37% of all students.

a. Radiologic Technology Students Compared to High School Students

The Radiologic Technology students are the most typical of high school students of any sample encountered thus far in the report. No consistent and significant differences are found in the two type distributions.

b. Radiologic Technology Students Compared to College Freshmen

Again, no significant differences are found in the two type distributions.

c. SVIB Radiologic Technologist Scale and the Student Sample

Table 8 shows that Radiologic Technologist, which is scored only on the women's form of the SVIB, is associated with MBTI preferences for sensing, thinking and judging.

The type distribution for the 286 females in health-related professions who scored high on Radiologic Technologist had 62% extraverts, 63% sensing types, 69% feeling types and 66% judging types. Although feeling types are in the majority, there were fewer of them and more thinking types than in the sample of 528 females in the health-related professions course.

The -S-J types account for 48% of the sample, and the --FP types account for 28%. As in the actual student sample, these 8 types account for 76% of the sample. The three most frequent types are ESFJ, ISFJ and ENFP. Two of these are in the top 3 of the actual student sample.

The SVIB scale, therefore, is consistent with the type distribution of actual students.

d. Sex Differences in Radiologic Technology Students

It was possible to make type distributions for 144 females and 30 males. On this very preliminary evidence, the only significant difference found was the expected TF difference—79% of females prefer feeling judgments while 63% of males prefer thinking judgments. The other preferences are very similar. Extraversion is preferred by 61% of females and 57% of males, sensing by 61% of females and 67% of males, and perception by 55% of females and 53% of males.

Table 31
Comparison of Students and Practitioners in Radiologic Technology

Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF STUDENTS IN
RADIOLOGIC TECHNOLOGY
N = 214

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N = 16 % = 7.48 ▮▮▮▮▮▮▮	ISFJ N = 16 % = 7.48 ▮▮▮▮▮▮▮	INFJ N = 5 % = 2.34 ▮▮	INTJ N = 4 % = 1.87 ▮▮	JUDGING / INTROVERTS
ISTP N = 4 % = 1.87 ▮▮	ISFP N = 17 % = 7.94 ▮▮▮▮▮▮▮▮	INFP N = 17 % = 7.94 ▮▮▮▮▮▮▮▮	INTP N = 4 % = 1.87 ▮▮	PERCEPTIVE / INTROVERTS
ESTP N = 5 % = 2.34 ▮▮	ESFP N = 22 % = 10.28 ▮▮▮▮▮▮▮▮▮▮	ENFP N = 28 % = 13.08 ▮▮▮▮▮▮▮▮▮▮▮▮▮	ENTP N = 11 % = 5.14 ▮▮▮▮▮	PERCEPTIVE / EXTRAVERTS
ESTJ N = 17 % = 7.94 ▮▮▮▮▮▮▮▮	ESFJ N = 29 % = 13.55 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮	ENFJ N = 14 % = 6.54 ▮▮▮▮▮▮▮	ENTJ N = 5 % = 2.34 ▮▮	JUDGING / EXTRAVERTS

	N	Percent
E	131	61.21
I	83	38.79
S	126	58.88
N	88	41.12
T	66	30.84
F	148	69.16
J	106	49.53
P	108	50.47
IJ	41	19.16
IP	42	19.63
EP	66	30.84
EJ	65	30.37
ST	42	19.63
SF	84	39.25
NF	64	29.91
NT	24	11.21
SJ	78	36.45
SP	48	22.43
NP	60	28.04
NJ	28	13.08
TJ	42	19.63
TP	24	11.21
FP	84	39.25
FJ	64	29.91
IN	30	14.02
EN	58	27.10
IS	53	24.77
ES	73	34.11

NOTES: ▮ = 1% of sample

Table includes 214 radiologic technology students.

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Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF PRACTITIONERS IN
RADIOLOGIC TECHNOLOGY
N = 53

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N = 4 % = 7.55 ▮▮▮▮▮▮▮▮	ISFJ N = 9 % = 16.98 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮	INFJ N = 0 % = 0.00	INTJ N = 2 % = 3.77 ▮▮▮▮	JUDGING / INTROVERTS
ISTP N = 0 % = 0.00	ISFP N = 5 % = 9.43 ▮▮▮▮▮▮▮▮▮	INFP N = 1 % = 1.89 ▮▮	INTP N = 1 % = 1.89 ▮▮	PERCEPTIVE / INTROVERTS
ESTP N = 5 % = 9.43 ▮▮▮▮▮▮▮▮▮	ESFP N = 2 % = 3.77 ▮▮▮▮	ENFP N = 9 % = 16.98 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮	ENTP N = 3 % = 5.66 ▮▮▮▮▮▮	PERCEPTIVE / EXTRAVERTS
ESTJ N = 5 % = 9.43 ▮▮▮▮▮▮▮▮▮	ESFJ N = 5 % = 9.43 ▮▮▮▮▮▮▮▮▮	ENFJ N = 1 % = 1.89 ▮▮	ENTJ N = 1 % = 1.89 ▮▮	JUDGING / EXTRAVERTS

	N	Percent
E	31	58.49
I	22	41.51
S	35	66.04
N	18	33.96
T	21	39.62
F	32	60.38
J	27	50.94
P	26	49.06
IJ	15	28.30
IP	7	13.21
EP	19	35.85
EJ	12	22.64
ST	14	26.42
SF	21	39.62
NF	11	20.75
NT	7	13.21
SJ	23	43.40
SP	12	22.64
NP	14	26.42
NJ	4	7.55
TJ	12	22.64
TP	9	16.98
FP	17	32.08
FJ	15	28.30
IN	4	7.55
EN	14	26.42
IS	18	33.96
ES	17	32.08

NOTES: ▮ = 1% of sample

Table includes 53 radiologic technologists.

Prepared as a part of the final report for "Application of the Myers-Briggs Type Indicator to Medicine and Other Health Professions," Contract No. 231-76-0051 for Health Resources Administration, HEW.

In summary, radiologic technology attracts all 16 types in about the same proportions as they are found in high school and college. This field shares with other health fields an attraction for the practical and organized -S-J types, but it also attracts the gentle, sympathetic and adaptable -F-P types who in theory should be interested in health delivery, but who, in our data thus far, are proportionately underrepresented in many health care fields.

The SVIB scale of interest in this health field picks up the same types as actually enter training.

As in all the other samples, proportionately more males prefer thinking and proportionately more females prefer feeling. The samples are too small for stable predictions to be made--on the basis of this very preliminary evidence, the males in the field can be expected to be more analytical and tough-minded than the females.

8. Respiratory Therapy

The sample of 480 in respiratory therapy includes 353 students and 127 practicing respiratory therapists.

The students are 59% extraverts, 59% sensing types, 62% feeling types and 56% judging types. The most frequent types are the four -S-J types plus the very different spontaneous ENFP; together these 5 types account for 52% of the students.

a. Respiratory Therapy Students Compared to High School Students

The only significant difference between the type distributions of the 353 respiratory therapy students and the 11th and 12th grade students in the CAPT data bank is that the respiratory therapy students have significantly more judging types than are found in high school (1.30***). All eight judging types have selection ratios greater than 1.00. The only perceptive type found in significantly more than expected numbers is ENTP (1.50*).

b. Respiratory Therapy Students Compared to College Freshmen

Although feeling types are in the majority, there are significantly fewer than in the college student population (.92*). The proportion of -SF- types is about at the expected levels, but the -NF- types are significantly fewer than found in college (.73**). The practical -ST- types are also about at expected levels, but respiratory therapy has significantly more -NT- types (1.37*).

c. Sex Differences in Respiratory Therapy Students

Distributions were possible for 70 females and 77 males among the respiratory therapy students. There is no significant difference in extraversion (females 59%, males 51%) or sensing (63% females and 66% males). Males prefer thinking (53%) and females, feeling (66%), a significant difference (1.41*). Males prefer the judging attitude (64%) and females the perceptive

Table 32
Comparison of Students and Practitioners in Respiratory Therapy

Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF STUDENTS IN
RESPIRATORY THERAPY
N = 353

SENSING TYPES		INTUITIVE TYPES		
with THINKING	with FEELING	with FEELING	with THINKING	
ISTJ N=30 % = 8.50 ▮▮▮▮▮▮▮▮	**ISFJ** N=37 % =10.48 ▮▮▮▮▮▮▮▮▮▮	**INFJ** N=13 % = 3.68 ▮▮▮▮	**INTJ** N=10 % = 2.83 ▮▮▮	JUDGING INTROVERTS
ISTP N= 6 % = 1.70 ▮▮	**ISFP** N=26 % = 7.37 ▮▮▮▮▮▮▮	**INFP** N=11 % = 3.12 ▮▮▮	**INTP** N=13 % = 3.68 ▮▮▮▮	PERCEPTIVE INTROVERTS
ESTP N= 6 % = 1.70 ▮▮	**ESFP** N=28 % = 7.93 ▮▮▮▮▮▮▮▮	**ENFP** N=40 % =11.33 ▮▮▮▮▮▮▮▮▮▮▮	**ENTP** N=24 % = 6.80 ▮▮▮▮▮▮▮	PERCEPTIVE EXTRAVERTS
ESTJ N=32 % = 9.07 ▮▮▮▮▮▮▮▮▮	**ESFJ** N=43 % =12.18 ▮▮▮▮▮▮▮▮▮▮▮▮	**ENFJ** N=20 % = 5.67 ▮▮▮▮▮▮	**ENTJ** N=14 % = 3.97 ▮▮▮▮	JUDGING EXTRAVERTS

	N	Percent
E	207	58.64
I	146	41.36
S	208	58.92
N	145	41.08
T	135	38.24
F	218	61.76
J	199	56.37
P	154	43.63
IJ	90	25.50
IP	56	15.86
EP	98	27.76
EJ	109	30.88
ST	74	20.96
SF	134	37.96
NF	84	23.80
NT	61	17.28
SJ	142	40.23
SP	66	18.70
NP	88	24.93
NJ	57	16.15
TJ	86	24.36
TP	49	13.88
FP	105	29.75
FJ	113	32.01
IN	47	13.31
EN	98	27.76
IS	99	28.05
ES	109	30.88

NOTES: ▮ = 1% of sample

Table includes 353 respiratory therapy students.

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Myers-Briggs Type Indicator **Type Table**

COMPOSITE OF PRACTITIONERS IN
RESPIRATORY THERAPY
N = 127

SENSING TYPES		INTUITIVE TYPES		
with THINKING	with FEELING	with FEELING	with THINKING	
ISTJ N=14 % =11.02 ▮▮▮▮▮▮▮▮▮▮▮	**ISFJ** N=10 % = 7.87 ▮▮▮▮▮▮▮▮	**INFJ** N= 3 % = 2.36 ▮▮	**INTJ** N= 5 % = 3.94 ▮▮▮▮	JUDGING INTROVERTS
ISTP N= 6 % = 4.72 ▮▮▮▮▮	**ISFP** N= 6 % = 4.72 ▮▮▮▮▮	**INFP** N= 9 % = 7.09 ▮▮▮▮▮▮▮	**INTP** N=11 % = 8.66 ▮▮▮▮▮▮▮▮▮	PERCEPTIVE INTROVERTS
ESTP N= 6 % = 4.72 ▮▮▮▮▮	**ESFP** N=13 % =10.24 ▮▮▮▮▮▮▮▮▮▮	**ENFP** N= 9 % = 7.09 ▮▮▮▮▮▮▮	**ENTP** N=10 % = 7.87 ▮▮▮▮▮▮▮▮	PERCEPTIVE EXTRAVERTS
ESTJ N= 8 % = 6.30 ▮▮▮▮▮▮	**ESFJ** N= 9 % = 7.09 ▮▮▮▮▮▮▮	**ENFJ** N= 4 % = 3.15 ▮▮▮	**ENTJ** N= 4 % = 3.15 ▮▮▮	JUDGING EXTRAVERTS

	N	Percent
E	63	49.61
I	64	50.39
S	72	56.69
N	55	43.31
T	64	50.39
F	63	49.61
J	57	44.88
P	70	55.12
IJ	32	25.20
IP	32	25.20
EP	38	29.92
EJ	25	19.69
ST	34	26.77
SF	38	29.92
NF	25	19.69
NT	30	23.62
SJ	41	32.28
SP	31	24.41
NP	39	30.71
NJ	16	12.60
TJ	31	24.41
TP	33	25.98
FP	37	29.13
FJ	26	20.47
IN	28	22.05
EN	27	21.26
IS	36	28.35
ES	36	28.35

NOTES: ▮ = 1% of sample

Table includes 127 respiratory therapists.

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attitude (54%), also a significant difference (1.49*). With this combination, males have significantly more --TJ types and females, more --FP types. The TF difference is expected and is found in most samples; whether the JP difference will be maintained when larger and more stable samples are collected remains to be seen. Evidence for the fact that it may hold up is found in the comparison of male and female practitioners, where the same preponderance of --TJ for males and --FP for females is repeated.

In summary, respiratory therapy attracts the practical and organized -S-J types who are found in many of the health professions. The field also attracts proportionately more of the spontaneous extraverts than are found in other health professions.

On the basis of very preliminary data, there appears to be a sex difference, such that the tough-minded executive males and gentle and adaptable females are attracted to respiratory therapy. The sample for this health field is too small to be stable, but the sex difference does show up in both students and practitioners. Respiratory Therapy may benefit from a closer scrutiny of the motivations and aspirations of all types entering this field, with a particular attention to differences in males and females.

9. Social Work

The sample of 309 people giving social work as their major field of study or as their occupation on MBTI answer sheets includes 140 students and 169 practitioners. Answer sheet facts may be wrong and are often incomplete; therefore these findings should be considered very tentative until better samples are collected. We estimate that the majority are at baccalaureate, not master's levels of training.

Social work falls in the group of health professions which have requirements for the subtleties of interpersonal communication. Because social work also requires helping through engaging family and community resources, it combines a necessity for practical understanding and intuitive insight. Our expectation was that social work would have substantial numbers of the communication-oriented -NF- types, but perhaps would have more sensing types than the psychological and counseling services groups.

The students distribution shows 53% extraverts, 50% intuitive types, 72% feeling types, and 64% perceptive types. Forty-five percent fall in the -NF- column. The two most psychologically-oriented types, INFP and ENFP account for 36% of students. The practitioner sample is similar -- 62% extraverts, 69% intuitive types, 72% feeling types and 53% perceptive types, with 55% in the -NF- column and 36% in INFP and ENFP.

From the type distributions, social work appears as an action-oriented (E) profession oriented toward understanding (P) interpersonal communication and fostering self-actualization (NF).

Table 33
Comparison of Students and Practitioners in Social Work

Myers-Briggs Type Indicator

Type Table

COMPOSITE OF PRACTITIONERS IN

SOCIAL WORK

N = 169

SENSING TYPES		INTUITIVE TYPES			
with THINKING	with FEELING	with FEELING	with THINKING		
ISTJ N= 7 %= 4.14 ▮▮▮▮	**ISFJ** N= 9 %= 5.33 ▮▮▮▮▮	**INFJ** N=17 %=10.06 ▮▮▮▮▮▮▮▮▮▮	**INTJ** N= 8 %= 4.73 ▮▮▮▮▮	JUDGING	INTROVERTS
ISTP N= 1 %= 0.59 ▮	**ISFP** N= 2 %= 1.18 ▮	**INFP** N=18 %=10.65 ▮▮▮▮▮▮▮▮▮▮▮	**INTP** N= 3 %= 1.78 ▮▮	PERCEPTIVE	
ESTP N= 2 %= 1.18 ▮	**ESFP** N=11 %= 6.51 ▮▮▮▮▮▮▮	**ENFP** N=42 %=24.85 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮	**ENTP** N=11 %= 6.51 ▮▮▮▮▮▮▮	PERCEPTIVE	EXTRAVERTS
ESTJ N=14 %= 8.28 ▮▮▮▮▮▮▮▮	**ESFJ** N= 6 %= 3.55 ▮▮▮▮	**ENFJ** N=16 %= 9.47 ▮▮▮▮▮▮▮▮▮	**ENTJ** N= 2 %= 1.18 ▮	JUDGING	

	N	Percent
E	104	61.54
I	65	38.46
S	52	30.77
N	117	69.23
T	48	28.40
F	121	71.60
J	79	46.75
P	90	53.25
IJ	41	24.26
IP	24	14.20
EP	66	39.05
EJ	38	22.49
ST	24	14.20
SF	28	16.57
NF	93	55.03
NT	24	14.20
SJ	36	21.30
SP	16	9.47
NP	74	43.79
NJ	43	25.44
TJ	31	18.34
TP	17	10.06
FP	73	43.20
FJ	48	28.40
IN	46	27.22
EN	71	42.01
IS	19	11.24
ES	33	19.53

NOTES ▮ = 1% of sample

Table includes 162 social workers and 7 caseworkers.

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Myers-Briggs Type Indicator

Type Table

COMPOSITE OF STUDENTS IN

SOCIAL WORK

N = 140

SENSING TYPES		INTUITIVE TYPES			
with THINKING	with FEELING	with FEELING	with THINKING		
ISTJ N= 3 %= 2.14 ▮▮	**ISFJ** N=14 %=10.00 ▮▮▮▮▮▮▮▮▮▮	**INFJ** N= 5 %= 3.57 ▮▮▮▮	**INTJ** N= 3 %= 2.14 ▮▮	JUDGING	INTROVERTS
ISTP N= 6 %= 4.29 ▮▮▮▮	**ISFP** N= 7 %= 5.00 ▮▮▮▮▮	**INFP** N=21 %=15.00 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮	**INTP** N= 7 %= 5.00 ▮▮▮▮▮	PERCEPTIVE	
ESTP N= 3 %= 2.14 ▮▮	**ESFP** N=10 %= 7.14 ▮▮▮▮▮▮▮	**ENFP** N=30 %=21.43 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮	**ENTP** N= 5 %= 3.57 ▮▮▮▮	PERCEPTIVE	EXTRAVERTS
ESTJ N= 7 %= 5.00 ▮▮▮▮▮	**ESFJ** N= 7 %= 5.00 ▮▮▮▮▮	**ENFJ** N= 7 %= 5.00 ▮▮▮▮▮	**ENTJ** N= 5 %= 3.57 ▮▮▮▮	JUDGING	

	N	Percent
E	74	52.86
I	66	47.14
S	57	40.71
N	83	59.29
T	39	27.86
F	101	72.14
J	51	36.43
P	89	63.57
IJ	25	17.86
IP	41	29.29
EP	48	34.29
EJ	26	18.57
ST	19	13.57
SF	38	27.14
NF	63	45.00
NT	20	14.29
SJ	31	22.14
SP	26	18.57
NP	63	45.00
NJ	20	14.29
TJ	18	12.86
TP	21	15.00
FP	68	48.57
FJ	33	23.57
IN	36	25.71
EN	47	33.57
IS	30	21.43
ES	27	19.29

NOTES ▮ = 1% of sample

Table includes 140 social work students.

Prepared as a part of the final report for "Application of the Myers-Briggs Type Indicator to Medicine and Other Health Professions," Contract No. 231-76-0051 for Health Resources Administration, HEW.

a. Social Work Students Compared to High School Students

Social work students have significantly more intuitive types than are found in high school (1.38***) and these are found significantly more often in the -NF- types (1.53***) but not in the -NT- types (1.05), and in the -N-P types (1.46***) but not -N-J (1.17). Only two types are significantly attracted to social work in this sample, INFP (1.60*) and ENFP (1.66**).

b. Social Work Students Compared to College Freshmen

The situation is similar when the social work students are compared with the college freshmen of the CAPT data bank, except that now the social work students also have significantly more perceptive types (1.35***) as well as more intuitive types (1.34***). They have significantly more -NF- types (1.42***) and -N-P types (1.58***) and significantly fewer of the -S-J types (.60***) found in so many other health professions.

When the total social work sample is compared with all university and graduate students in the CAPT data bank, social work still attracts significantly more intuitives, feeling types and perceptive types, and has half again as many -NF- types as would be expected from their numbers in the college population (1.51***).

c. SVIB Social Work Scale Scores Compared to Social Work Sample

Table 8 shows that the SVIB social work scale correlates significantly with MBTI continuous scores for EN-- for females, and ENF- for males.

Not enough of the health-related professions students scored high on the Social Work scale to justify making type distributions. However, the correlations are in the same directions as the student and practitioner type distributions.

d. Sex Differences in Social Work Students and Practitioners

The MBTI preferences for males and females in the student and practitioner groups are shown below in percentages:

	E	I	S	N	T	F	J	P	NF
Students									
Males (34)	47	53	32	68	38	62	32	68	35
Females (106)	55	45	43	57	25	75	38	62	48
Practitioners									
Males (37)	59	41	21	78	35	65	49	51	57
Females (125)	60	40	35	65	26	74	48	52	54

The distributions of the two sexes are very similar. In students the only significant difference is the slightly larger number of -NT- types in males. There were no significant sex differences in the practitioner group.The expected larger proportion of feeling types in females was not statistically significant in either group.

In summary, social work attracts high school and college students who prefer intuition and feeling, the -NF- types who in theory have a special interest in, and talent for, interpersonal communication. Social work competes for the -NF- types with psychological and counseling services, and with occupational therapy as well as with medicine and speech pathology.

The Strong Vocational Interest Blank scores are consistent with MBTI preferences.

In some fields, type distributions of males and females are so different that type alone could explain sex differences in motivations and career goals. This is not the case in social work, where male and female type distributions are similar.

Social work, like Psychological and Counseling Services, has one-fifth of its members in the practical and organized -S-J types who are so frequent in many of the other health professions studied. It will be interesting in future studies to learn if these -S-J types become the bridging people between traditional -NF- social workers and other health professions, or if they find themselves feeling out of place in both worlds.

10. Speech Pathology

Because speech pathologists typically have a high proportion of their activity in direct patient care, more feeling types were predicted. Because of the concern with communication and language, the intuitives with feeling were expected to find this health career attractive.

The sample of 337 in speech pathology includes 215 students and 122 practitioners. Over two-thirds of the sample is from Florida.

The MBTI preferences for the students are: extraversion 62%, intuition 54%, feeling 76% and perception 53%. The -NF- types with their special interest in communication make up 42% of the students.

In absolute numbers, the four most frequent types are ENFP, ESFJ, ENFJ and INFP; together these account for 52% of students.

a. Comparison of Speech Pathology Students and High School Students

The attractiveness of speech pathology to different types in high school can be estimated by the comparison of speech pathology student types with high school juniors and seniors on the CAPT data bank.

Speech pathology has significantly more intuitive types and feeling types (ratios 1.25** and 1.17***) respectively. There are significantly more -NF- types (1.44***) and fewer of their opposite -ST- types (.58***) but about the expected numbers of -SF- and -NT- types. ENFP (1.48**) and ENFJ (2.44***) are the only types significantly attracted to speech pathology and no types were significantly avoiding it.

Table 34
Comparison of Students and Practitioners in Speech Pathology

Myers-Briggs Type Indicator

Type Table

COMPOSITE OF STUDENTS IN

SPEECH PATHOLOGY

N = 215

SENSING TYPES		INTUITIVE TYPES			
with THINKING	with FEELING	with FEELING	with THINKING		
ISTJ N= 7 %= 3.26 ▮▮▮	*ISFJ* N=15 %= 6.98 ▮▮▮▮▮▮▮	*INFJ* N= 7 %= 3.26 ▮▮▮	*INTJ* N= 4 %= 1.86 ▮▮	JUDGING	INTROVERTS
ISTP N= 6 %= 2.79 ▮▮▮	*ISFP* N=14 %= 6.51 ▮▮▮▮▮▮▮	*INFP* N=21 %= 9.77 ▮▮▮▮▮▮▮▮▮▮	*INTP* N= 7 %= 3.26 ▮▮▮	PERCEPTIVE	
ESTP N= 5 %= 2.33 ▮▮	*ESFP* N=15 %= 6.98 ▮▮▮▮▮▮▮	*ENFP* N=41 %=19.07 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮	*ENTP* N= 6 %= 2.79 ▮▮▮	PERCEPTIVE	EXTRAVERTS
ESTJ N= 9 %= 4.19 ▮▮▮▮	*ESFJ* N=28 %=13.02 ▮▮▮▮▮▮▮▮▮▮▮▮▮	*ENFJ* N=22 %=10.23 ▮▮▮▮▮▮▮▮▮▮	*ENTJ* N= 8 %= 3.72 ▮▮▮▮	JUDGING	

	N	Percent
E	134	62.33
I	81	37.67
S	99	46.05
N	116	53.95
T	52	24.19
F	163	75.81
J	100	46.51
P	115	53.49
IJ	33	15.35
IP	48	22.33
EP	67	31.16
EJ	67	31.16
ST	27	12.56
SF	72	33.49
NF	91	42.33
NT	25	11.63
SJ	59	27.44
SP	40	18.60
NP	75	34.88
NJ	41	19.07
TJ	28	13.02
TP	24	11.16
FP	91	42.33
FJ	72	33.49
IN	39	18.14
EN	77	35.81
IS	42	19.53
ES	57	26.51

NOTES: ▮ = 1% of sample

Table includes 215 speech pathology students.

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Myers-Briggs Type Indicator

Type Table

COMPOSITE OF PRACTITIONERS IN

SPEECH PATHOLOGY

N = 122

SENSING TYPES		INTUITIVE TYPES			
with THINKING	with FEELING	with FEELING	with THINKING		
ISTJ N= 5 %= 4.10 ▮▮▮▮	*ISFJ* N= 7 %= 5.74 ▮▮▮▮▮▮	*INFJ* N= 8 %= 6.56 ▮▮▮▮▮▮▮	*INTJ* N= 5 %= 4.10 ▮▮▮▮	JUDGING	INTROVERTS
ISTP N= 3 %= 2.46 ▮▮	*ISFP* N= 7 %= 5.74 ▮▮▮▮▮▮	*INFP* N=12 %= 9.84 ▮▮▮▮▮▮▮▮▮▮	*INTP* N= 4 %= 3.28 ▮▮▮	PERCEPTIVE	
ESTP N= 1 %= 0.82 ▮	*ESFP* N= 4 %= 3.28 ▮▮▮	*ENFP* N=18 %=14.75 ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮	*ENTP* N=10 %= 8.20 ▮▮▮▮▮▮▮▮	PERCEPTIVE	EXTRAVERTS
ESTJ N= 8 %= 6.56 ▮▮▮▮▮▮▮	*ESFJ* N=12 %= 9.84 ▮▮▮▮▮▮▮▮▮▮	*ENFJ* N=11 %= 9.02 ▮▮▮▮▮▮▮▮▮	*ENTJ* N= 7 %= 5.74 ▮▮▮▮▮▮	JUDGING	

	N	Percent
E	71	58.20
I	51	41.80
S	47	38.52
N	75	61.48
T	43	35.25
F	79	64.75
J	63	51.64
P	59	48.36
IJ	25	20.49
IP	26	21.31
EP	33	27.05
EJ	38	31.15
ST	17	13.93
SF	30	24.59
NF	49	40.16
NT	26	21.31
SJ	32	26.23
SP	15	12.30
NP	44	36.07
NJ	31	25.41
TJ	25	20.49
TP	18	14.75
FP	41	33.61
FJ	38	31.15
IN	29	23.77
EN	46	37.70
IS	22	18.03
ES	25	20.49

NOTES: ▮ = 1% of sample

Table includes 117 speech pathologists and 5 speech therapists.

Prepared as a part of the final report for "Application of the Myers-Briggs Type Indicator to Medicine and Other Health Professions," Contract No. 231-76-0051 for Health Resources Administration, HEW.

b. Comparison of Speech Pathology Students to College Students

When the 215 Speech Pathology students are compared to the 11,122 college freshmen of the CAPT data bank, speech pathology has significantly more extraverts (1.13*), intuitive types (1.22**) and feeling types (1.13**). As with the high school comparison, significantly more than the expected numbers of -NF- types are in speech pathology (1.34***) and significantly fewer of the practical and matter-of-fact -ST- types have chosen speech pathology (.66**).

Two types, ENFP (1.50**) and ENFJ (1.76**) are significantly attracted to speech pathology. One type, ESTJ (.53*) is significantly less likely to have chosen speech pathology.

c. Speech Pathologists with Baccalaureate and Graduate Degrees

Degree level was available only for a small sample of 40 speech pathologists with baccalaureate degrees and 31 speech pathologists with master's degrees. These preliminary data show more extraverts among baccalaureate students (70%) and more introverts among graduate students (61%). The groups were similar in preference for intuition (62% and 61%) and feeling (60% and 55%). Judging types predominated in baccalaureate students (62%) and perceptive types predominated in graduate students (55%). Thus graduate students include significantly more of the adaptable introverts (I--P types).

d. SVIB Speech Pathologist Interest Scale Compared to Students

Table 8 shows that the SVIB Speech Pathology scale scores are significantly related to MBTI preferences for extraversion and intuition. This is consistent with the findings of types attracted to speech pathology.

Only 23 students had high scores on the SVIB Speech Pathologist scale, but an analysis was possible of the 310 students who were significantly low (uninterested) in speech pathology. ISTJ, ISFJ and ESFJ show low interest and are less frequent in actual student groups; ENFP, ENFJ and ENTJ are infrequent in the low-interest SVIB group and frequent among actual students.

The SVIB, therefore, selects the same types as interested and disinterested in speech pathology as are actually found in greater or lesser numbers in student samples.

In summary, Speech Pathology is part of the family of health professions which includes psychological and counseling services, social work, occupational therapy, and medicine (particularly psychiatry). All sixteen types are found in speech pathology, but it is particularly attractive to outgoing, innovative types (E) who desire constant patient contact (F) and are interested in communication (NF). The solid, deliberate practical people tend to avoid this profession. The SVIB represents the field well for females. No analyses of sex differences were made as too few males were found in the current sample.

11. Other Health-Related Fields

This section describes a group of other health-related fields for whom small samples were found. The sample of 866 includes 422 students (208 who identified themselves simply as being in health-related professions, 53 in medical records, 27 in medical illustration, 48 in medical communications, 52 in cardiovascular technology, 9 in health and hospital administration, and 25 medical assistant students) and 444 practitioners (182 health educators, 51 health administrators, 45 medical records personnel, 46 community outreach workers, 51 medical assistants, 10 orderlies, 4 chiropractors, 4 patient unit supervisors, and 51 other health-related professionals).

It is clear that some important health occupations have been little studied with the MBTI; the limitations of these samples need to be kept in mind in using these data. Many of the students and practitioners will have been picked up in the data bank from the answer sheet codes, when the MBTI was taken for reasons unrelated to studies of health careers. We do not know the bias in these serendipitous samples. With these cautions, we present data for all groups containing at least 30 people. Since the composite of 866 is an arbitrary grouping, no analysis of the overall student and practitioner groups is included.

a. Cardiovascular Technology

The students in this sample are 52 circulation technology students from the Ohio State University. This one class has 58% extraverts, 56% intuitive types, 60% thinking types and 69% judging types. The logical and ingenious -NT- types account for 38% of the group.

Compared to high school students, this small sample has significantly more thinking types (1.70***) and judging types (1.59***). This gives more than twice as many --TJ types as expected by chance (2.32***). The types significantly more frequent are ENTJ (6.27***), INTJ (5.05***) and ENFJ (2.76***).

Larger samples across more schools are needed for any stable understanding of this group. This first sample suggests that at least in one school the students selected are active, tough-minded and decisive people.

b. Health Administration

The combined sample of 60 health administration students and practitioners has 60% extraverts, 60% intuitive types, 62% feeling types and 70% judging types.

In general, administrators and executives are expected to have more judging types who prefer to organize, plan and make decisions. Leadership activities requiring attention to detail are expected to attract -S-J types; leadership which breaks new ground should attract -N-J types. Task-oriented leaders are expected to have more --TJ types and people-oriented leaders are expected to have more --FJ types.

Compared to high school students, this small sample of administrators has significantly more intuitives (1.39**) and judging types (1.61***), with the two fast-moving EN-J types significantly above the expected frequencies (ENFJ 6.37*** and ENTJ 3.02*). The innovative and decisive -N-J types are significantly found in this sample (3.13***) as they were in the second follow-up of Myers Longitudinal medical sample.

When larger samples are obtained for these important health professionals, we expect that there will be substantial numbers of -S-J types concerned with the practical aspects of health and hospital administration, and substantial numbers of -N-J types trying to find new ways to manage the almost unmanageable complexity of health care delivery.

Perceptive types do occur in administrative positions, and more study is needed to determine the kinds of administrative settings where the flexibility and openness of perceptives is especially valued.

c. Health Education

This composite sample of 182 health educators is composed mainly of health professionals responsible for in-service training of other professionals and faculty training students in health. It also includes a small but undetermined number of persons concerned primarily with health education of patients. Much of the sample came from cases of health professionals attending workshops, and therefore the distribution should be considered very tentative until more clearly representative samples can be collected.

The sample of 182 "health educators" includes 54% extraverts, 57% sensing types, 63% feeling types and 67% judging types. ISFJ and ESFJ are the two most frequent types and account for 30% of the sample.

Compared to high school students, the health educator group has significantly more judging types (1.54***). Three judging types, ISFJ (2.02***), INTJ (2.16*) and ENTJ (1.99*) have significantly more in the educator sample than expected from the high school base population.

This preliminary sample appears to represent reasonably well health administrators with special interest in the human side of health delivery. When more representative samples are collected, we would expect more -NFJ in the educators teaching practitioners and students, and more -SFJ in the educators concerned with teaching of patients.

d. Medical Assistants

The 78 people in this category include 53 who gave their occupation as medical assistant, and 25 in medical assistant training programs.

The group has 62% extraverts, 56% sensing types, 74% feeling types, and 50% judging types. The sympathetic and friendly -SF- types account for 42% of the sample. The sample is not significantly different from the distribution of high school students.

If larger samples of people trained to give general assistance in medicine show the same distributions, this field will be attracting outgoing (E) patient-centered (-SF) people, including more of the social and adamptable (E--P) people than are often found in the professional roles. These types would seem to be useful in the many tasks that can give patients the sense of being cared for and cared about.

e. Medical Communications

This small sample of 43 students was submitted by the Ohio State University. Any field focussing on communications is expected to have proportionately more -NF- types, and more extraverts.

The sample has 74% extraverts, 63% intuitive types, 60% feeling types and 58% perceptive types. The -NF- types account for 49%.

Compared to high school students, there are significantly more extraverts (1.32*) and intuitive types (1.46**), more spontaneous extraverts (E--P 1.48*) and more -NF- types (1.66**). There are significantly more active innovators than in high school (EN 1.81**) and significantly fewer thoughtful realists (IS .28**). The most frequent type is ENFP which alone accounts for 30% of the class.

Though this sample is small and confined to one setting, it is highly probable that larger samples will be similar. The medical communications students are in the types predicted by theory to be attracted to this field.

f. Medical Records

Because of the importance of accuracy and completeness of medical records, the prediction was that this field would attract the most careful of the types who enjoy system and order, and who believe information should be very accurate— the IS-J types. The field would seem to attract more introverts and sensing types.

The sample of medical records administration students and practitioners is made up of 98 people, 45 of whom gave their occupation as workers in medical records, and 53 students in medical records administration.

Because it is possible that the students and practitioners may not be from similar populations, the MBTI preferences are given for the total group, and then for the students and practitioners respectively: introversion 50% (45%, 56%), sensing 70% (77%, 62%), feeling 74% (75%, 73%) and judging 68% (64%, 73%). One type alone, ISFJ, accounts for 19% of students and 24% of medical records personnel. ISFJ and ISTJ together account for 30% of the entire sample, 28% of the students and 31% of the medical records personnel.

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Compared to high school students, this preliminary sample of medical records has significantly more sensing types (1.24**), feeling types (1.15*) and judging types (1.58***). There are significantly more I--J types (1.96***), more patient-oriented -SF- types 1.55***) and more thoughtful and realistic IS-- types (1.46***). The many -S-J types giving health care should have little trouble with medical records personnel, who also have significantly more of these detail-minded and organized people (1.70***). Two types are significantly attracted to medical records, ISFJ (2.92***) and ESFJ (1.61*).

This small sample is consistent with expectations from theory and larger samples will probably be consistent with the patterns described above. It seems clear that medical communications and medical records are not competing with each other for students—they are attracting quite different types of people.

g. Community Outreach Workers

This sample is made up primarily of outreach workers in family planning programs in Florida. The main prediction was for more -S-J types, since these are most frequent in the general population, and more -SF- types since they are expected to have the greatest interest in direct patient care. Finally, extraverts were expected to be attracted to the action and sociability required of outreach work.

This small sample of 46 people had 63% extraverts, 85% sensing types, 54% feeling types and 72% judging types. The -S-J types were 67% of the group, and the pragmatic ES-- types were 50%. The proportion of sensing types is typical of CAPT samples of junior high school students in Florida.

Compared to high school students, this small outreach sample has significantly more sensing types (1.49***) and judging types (1.65***). There are significantly more -S-J types (2.16***), and three of these types have sigificant selection ratios (ESTJ 3.08***, ISFJ 2.37** and ISTJ 2.48*). There were significantly more practical and matter-of fact -ST- types (1.92**) and non-significantly more if the sympathetic and friendly -SF- types (1.23).

This is a very small sample, but because the data fit what is known at this stage of the general population, they appear to be good representatives of their own community distributions.

This concludes our listing of medicine, other health professions and health-related fields. When taken one at a time, most fields appear to be attracting more of the types who, in theory, should find the work interesting and enjoyable. All fields have all 16 types, and an important next step will be to look closely at the motivations, interests and success of frequent and rare types in each health field. In some fields, similar types of males and females are found; in others, the male and female distributions are quite different. More study of sex differences is needed.

E. The Fields of Health Compared with One Another

The previous sections have described the data for each health field separately. This section is concerned with the use of the MBTI to compare fields with one another.

To some extent all the health fields compete in the high school and college student pool for members of their profession. The previous sections have shown that each field attracts some types more than others. Health fields attracting the same types are competing more than health fields attracting opposite types.

The tables that follow are designed to group the health fields by ranking them for each of the MBTI preferences, and then for each of the 16 types. These rankings are a first step at looking at "families" of fields of health, based on similarity of the MBTI types attracted to them.

Table 35 ranks the student samples four times, by percentages of extraverts, sensing types, thinking types, and judging types, in that order. Table 36 ranks the composite samples of students plus practitioners in the same ways. In using these tables, it is important to keep in mind the limitations of the samples for each health field, as explained in earlier sections.

Three comparisons are given for each health field. First, the field is compared to the CAPT high school sample of 6,738 11th and 12th grade students. The purpose of this comparison (Ratio A) is to relate the field to the high school manpower pool. Second, the field is compared to the CAPT data bank sample of 11,122 college freshmen. The purpose of this comparison (Ratio B) is to relate the health field to the college student manpower pool. The third comparison relates the field to the CAPT data bank composite of 32,271 people in all health professions. The purpose of this comparison (Ratio C) is to see where significant differences lie within the health professions themselves.

As an example of how to read Table 35, the data on students in dietetics and nutrition will be compared with the data on pharmacy students. The dietetic and nutrition students are 66% extraverts, while the pharmacy students are 52% introverts. The high school sample (which appears in Appendix B) has 56.25% extraverts and 43.75% introverts. Dietetics and nutrition has more extraverts than the high school sample, and pharmacy has fewer extraverts and more introverts than the high school sample. Ratio A of 1.17** for dietetics and nutrition students confirms that this health field has more extraverts than expected from the high school population, and that the difference would have occurred by chance less than once in one hundred times. Since there are more extraverts, there must be fewer introverts; the ratio of .78** under introversion repeats the same information as was seen in the extraverted column, from the opposite vantage point. The pharmacy students have significantly fewer extraverts (ratio A 0.85***) and more introverts (ratio 1.20***).

One possible interpretation of these facts is that dietetics programs are more attractive to extraverts, and pharmacy programs to introverts. Another possibility is that equal numbers of extraverts and introverts are applying to both fields, but that selection policies favor extraverts in dietetics and introverts in pharmacy.

In Ratio C, the health fields are compared to one another. That is, the base population is the composite of 32,271 students and practitioners in all health fields. (As noted earlier, this is a very rough estimate of the true distribution of MBTI types in health, since the MBTI data found in this project are not in proportion to the actual numbers in the fields of health.)

In our example, compared to all persons in health fields,there are significantly more extraverts in dietetics and nutrition (1.22***) and more introverts in pharmacy (1.20***).

Table 36 is arranged in the same way. However, the base population for Ratio B in this table is the data bank sample of all college and graduate students. Table 36 ranks the health fields in terms of the percentages of MBTI preferences for all students and practitioners in each major area for which data were discovered.

In our example, pharmacy continues to have significantly more introverts than high school students (1.20***), college and graduate students (1.12***) and all health fields (1.10***). Dietetics and nutrition has moved down the list in Table 36, because extraverts and introverts are more evenly divided in practitioners than in the student sample. In table 36 this field has about the expected number of extraverts as compared to high school students (1.03) and slightly but significantly more than would be expected from college and graduate school samples (1.09*) or all health fields (1.10*). The implications of differences in student and practitioner distributions will be discussed in Section F.

1. Extravert-Introvert Differences in Health Fields

There are sizeable numbers of both extraverts and introverts in every health field studied thus far. The range of percentages of extraverts is from 46% to 64%. From one-half to one-third of each field are introverts. There would seem to be no reason to select against either extraverts or introverts in any health field.

The fields which appear to have attracted most extraverts are physician extender services, speech pathology, radiologic technology, occupational therapy, and to some extent dietetics and nursing. In theory, these fields should call on practitioners for much activity, sociability and ease of communication with patients.

The fields which are relatively more attractive to introverts are clinical laboratory services, medicine and pharmacy. These fields in theory should have more solitary work, more concepts to be mastered, or the need for more sustained attention.

Table 35
Rankings for HBTI Preferences of Students in Health Fields

Students in Health Fields	N	PERCENT	RATIO A	RATIO B	RATIO C	PERCENT	RATIO A	RATIO B	RATIO C
			EXTRAVERTS				INTROVERTS		
Dietetic & Nutritional Services	215	66.05	1.17**	1.20**	1.23***	33.95	0.78**	0.76**	0.74***
Physician Extender Services	310	63.55	1.13*	1.15**	1.18***	36.45	0.83*	0.81**	0.79***
Speech Pathology	215	62.33	1.11	1.13*	1.16*	37.67	0.86	0.84*	0.82*
Other Health Related Fields	422	62.32	1.11*	1.13**	1.16***	37.68	0.86*	0.84**	0.82***
Radiologic Technology	214	61.21	1.09	1.11	1.14*	38.78	0.89	0.87	0.84*
Occupational Therapy	684	60.67	1.08*	1.10**	1.13***	39.33	0.90*	0.88**	0.85***
Respiratory Therapy	353	58.64	1.04	1.06	1.09	41.36	0.95	0.92	0.90
Nursing and Allied Fields	7625	58.36	1.04*	1.06***	1.08***	41.64	0.95*	0.93***	0.90***
Physical Therapy	1091	55.27	0.98	1.00	1.03	44.73	1.02	1.00	0.97
Dentistry and Allied Fields	1186	53.88	0.96	0.98	1.00	46.12	1.05	1.03	1.00
Social Work	140	52.86	0.94	0.96	0.98	47.14	1.08	1.05	1.02
Psychological & Counseling Services	1247	52.04	0.93**	0.94*	0.97	47.96	1.10**	1.07*	1.04
Veterinary Medicine & Allied Fields	121	51.24	0.91	0.93	0.95	48.76	1.11	1.09	1.06
Clinical Laboratory Services	705	49.22	0.88***	0.89**	0.91*	50.78	1.16***	1.13**	1.10*
Medicine	5982	47.99	0.87***	0.88***	0.90***	52.01	1.17***	1.14***	1.11***
Pharmacy and Allied Fields	2433	47.55	0.85***	0.86***	0.88***	52.45	1.20***	1.17***	1.14***
Optometry	91	46.15	0.82	0.84	0.86	53.85	1.23	1.20	1.17
All Health Fields	32271	52.37	0.93***	0.95***	1.00	47.63	1.09***	1.06***	1.00
			SENSING TYPES				INTUITIVE TYPES		
Nursing and Allied Fields	7625	60.45	1.06***	1.09***	1.18***	39.55	0.92***	0.89***	0.81***
Dentistry and Allied Fields	1186	60.03	1.05*	1.08**	1.17***	39.97	0.93*	0.90**	0.82***
Clinical Laboratory Services	705	59.57	1.05	1.07*	1.16***	40.43	0.94	0.91*	0.83***
Respiratory Therapy	353	58.92	1.03	1.06	1.15**	41.08	0.95	0.93	0.84**
Radiologic Technology	214	58.88	1.03	1.06	1.15*	41.12	0.96	0.93	0.84*
Physician Extender Services	310	58.06	1.02	1.04	1.13*	41.94	0.97	0.95	0.86*
Dietetic & Nutritional Services	215	56.28	0.99	1.01	1.10	43.72	1.02	0.99	0.90
Pharmacy and Allied Fields	2433	55.86	0.98	1.00	1.09***	44.14	1.03	1.00	0.91***
Physical Therapy	1091	55.82	0.98	1.00	1.09**	44.18	1.03	1.00	0.91**
Other Health Related Fields	422	55.69	0.98	1.00	1.09	44.31	1.03	1.00	0.91
Optometry	91	52.75	0.93	0.95	1.03	47.25	1.10	1.07	0.97
Veterinary Medicine & Allied Fields	121	47.93	0.84*	0.86	0.93	52.07	1.21*	1.17	1.07
Speech Pathology	215	46.05	0.81**	0.83**	0.90	53.95	1.25**	1.22**	1.11
Social Work	140	40.71	0.71***	0.73***	0.79*	59.29	1.38***	1.34***	1.22*
Occupational Therapy	684	39.62	0.70***	0.71***	0.77***	60.38	1.40***	1.36***	1.24***
Medicine	5982	39.13	0.69***	0.71***	0.77***	60.87	1.41***	1.37***	1.24***
Psychological & Counseling Services	1247	30.87	0.54***	0.55***	0.60***	69.13	1.61***	1.56***	1.42***
All Health Fields	32271	51.37	0.90***	0.92***	1.00	48.63	1.13***	1.10***	1.00
			THINKING TYPES				FEELING TYPES		
Physician Extender Services	310	49.68	1.42***	1.52***	1.41***	50.32	0.78***	0.75***	0.78***
Dentistry and Allied Fields	1186	46.54	1.33***	1.43***	1.32***	53.46	0.82***	0.79***	0.83***
Pharmacy and Allied Fields	2433	46.53	1.33***	1.42***	1.32***	53.47	0.82***	0.79***	0.83***
Medicine	5982	43.20	1.23***	1.32***	1.22***	56.80	0.88***	0.84***	0.88***
Optometry	91	40.66	1.16	1.25	1.15	59.34	0.91	0.88	0.92
Clinical Laboratory Services	705	39.15	1.12*	1.20***	1.11*	60.85	0.94*	0.90***	0.94*
Respiratory Therapy	353	38.24	1.09	1.17*	1.08	61.76	0.95	0.92*	0.95
Veterinary Medicine & Allied Fields	121	36.36	1.04	1.11	1.03	63.64	0.98	0.94	0.98
Other Health Related Fields	422	33.41	0.95	1.02	0.95	66.59	1.03	0.99	1.03
Radiologic Technology	214	30.84	0.88	0.94	0.87	69.16	1.07	1.03	1.07
Psychological & Counseling Services	1247	30.07	0.86***	0.92	0.85***	69.93	1.08***	1.04	1.08***
Physical Therapy	1091	28.41	0.81***	0.87**	0.80***	71.59	1.10***	1.06**	1.11***
Social Work	140	27.86	0.79	0.85	0.79	72.14	1.11	1.07	1.12
Nursing and Allied Fields	7625	26.16	0.75***	0.80***	0.74***	73.84	1.14***	1.10***	1.14***
Dietetic & Nutritional Services	215	24.19	0.69***	0.74**	0.69***	75.81	1.17***	1.13**	1.17***
Speech Pathology	215	24.19	0.69***	0.74**	0.69***	75.81	1.17***	1.13**	1.17***
Occupational Therapy	684	23.25	0.66***	0.71***	0.66***	76.75	1.18***	1.14***	1.19***
All Health Fields	32271	36.32	1.03	1.11***	1.00	63.68	0.98	0.95***	1.00
			JUDGING TYPES				PERCEPTIVE TYPES		
Physician Extender Services	310	70.00	1.61***	1.33***	1.19***	30.00	0.53***	0.64***	0.73***
Dietetic & Nutritional Services	215	69.30	1.59***	1.31***	1.18**	30.70	0.54***	0.65***	0.74**
Dentistry and Allied Fields	1186	67.71	1.56***	1.28***	1.15***	32.29	0.57***	0.68***	0.78***
Clinical Laboratory Services	705	65.11	1.50***	1.23***	1.11***	34.89	0.62***	0.74***	0.84***
Optometry	91	62.64	1.44***	1.19	1.07	37.36	0.66***	0.79	0.90
Nursing and Allied Fields	7625	61.19	1.41***	1.16***	1.04***	38.81	0.69***	0.82***	0.94***
Pharmacy and Allied Fields	2433	59.23	1.36***	1.12***	1.01	40.77	0.72***	0.86***	0.99
Medicine	5982	58.21	1.35***	1.11***	1.00	41.79	0.73***	0.87***	1.00
Respiratory Therapy	353	56.37	1.30***	1.07	0.96	43.63	0.77***	0.92	1.06
Physical Therapy	1091	56.19	1.29***	1.06*	0.96	43.81	0.78***	0.93*	1.06
Veterinary Medicine & Allied Fields	121	55.37	1.27**	1.05	0.94	44.63	0.79**	0.94	1.08
Other Health Related Fields	422	53.55	1.23***	1.01	0.91*	46.45	0.82***	0.98	1.12*
Radiologic Technology	214	49.53	1.14	0.94	0.84**	50.47	0.89	1.07	1.22**
Occupational Therapy	684	48.68	1.12**	0.92*	0.83***	51.32	0.91**	1.09*	1.24***
Speech Pathology	215	46.51	1.07	0.88	0.79***	53.49	0.95	1.13	1.29***
Psychological & Counseling Services	1247	41.22	0.95	0.78***	0.70***	58.78	1.04	1.24***	1.42***
Social Work	140	36.43	0.84	0.69***	0.62***	63.57	1.13	1.35***	1.54***
All Health Fields	32271	59.18	1.36***	1.12***	1.00	40.82	0.72***	0.86***	1.00

Notes: Ratio A compares students in each health field to the CAPT data bank sample of 6,738 high school juniors and seniors.

Ratio B compares students in each health field to the CAPT data bank sample of 11,122 college freshmen.

Ratio C compares students in each health field to the 23,396 composite sample of all health students.

Fields are ranked in order of % of extraverts, sensing types, thinking types and judging types.

Ratio = % in health field ÷ % in comparison populations A, B or C (or $\text{Frequency}_{obs} \div \text{Frequency}_{exp}$).

For all tables in this report, * p <.05, ** p <.01 and *** p <.001.

Table 36
Rankings for MBTI Preferences of Students and Professionals in Health Fields

Health Field	N	PERCENT	RATIO A	RATIO B	RATIO C	PERCENT	RATIO A	RATIO B	RATIO C
			EXTRAVERTS				INTROVERTS		
Physician Extender Services	323	64.09	1.14**	1.21***	1.22***	35.91	0.82**	0.76***	0.75***
Speech Pathology	337	60.83	1.08	1.15**	1.16**	39.17	0.90	0.83**	0.82**
Radiologic Technology	267	60.67	1.08	1.15*	1.16**	39.33	0.90	0.84*	0.83**
Occupational Therapy	841	58.86	1.05	1.11***	1.12***	41.14	0.94	0.87***	0.86***
Other Health Related Fields	866	58.20	1.03	1.10**	1.11***	41.80	0.96	0.89**	0.88***
Dietetic & Nutritional Services	524	57.82	1.03	1.09*	1.10*	42.18	0.96	0.90*	0.89*
Social Work	309	57.61	1.02	1.09	1.10	42.39	0.97	0.90	0.89
Respiratory Therapy	480	56.25	1.00	1.06	1.07	43.75	1.00	0.93	0.92
Nursing and Allied Fields	10260	55.77	0.99	1.05***	1.06***	44.23	1.01	0.94***	0.93***
Psychological & Counseling Services	2453	54.50	0.97	1.03	1.04*	45.50	1.04	0.97	0.96*
Dentistry and Allied Fields	1282	53.82	0.96	1.02	1.03	46.18	1.06	0.98	0.97
Physical Therapy	1246	53.53	0.95	1.01	1.02	46.47	1.06	0.99	0.98
Veterinary Medicine & Allied Fields	142	50.00	0.89	0.95	0.95	50.00	1.14	1.06	1.05
Optometry	116	48.28	0.86	0.91	0.92	51.72	1.18	1.10	1.09
Pharmacy and Allied Fields	2712	47.42	0.84***	0.90***	0.91***	52.58	1.20***	1.12***	1.10***
Medicine	8225	47.05	0.84***	0.89***	0.90***	52.95	1.21***	1.12***	1.11***
Clinical Laboratory Services	1888	46.45	0.83***	0.88***	0.89***	53.55	1.22***	1.14***	1.12***
All Health Fields	32271	52.37	0.93***	0.95***	1.00	47.63	1.09***	1.06***	1.00
			SENSING TYPES				INTUITIVE TYPES		
Radiologic Technology	267	60.30	1.06	1.19**	1.17**	39.70	0.92	0.80**	0.82**
Clinical Laboratory Services	1888	59.90	1.05*	1.19***	1.17***	40.10	0.93*	0.81***	0.82***
Nursing and Allied Fields	10260	59.84	1.05***	1.19***	1.16***	40.16	0.93***	0.81***	0.83***
Dentistry and Allied Fields	1282	59.75	1.05	1.18***	1.16***	40.25	0.94	0.81***	0.83***
Dietetic & Nutritional Services	524	58.78	1.03	1.16***	1.14***	41.22	0.96	0.83***	0.85***
Respiratory Therapy	480	58.33	1.02	1.16***	1.14**	41.67	0.97	0.84***	0.86**
Physician Extender Services	323	57.28	1.01	1.13*	1.11*	42.72	0.99	0.86*	0.88*
Other Health Related Fields	866	56.35	0.99	1.12***	1.10**	43.65	1.01	0.88***	0.90**
Physical Therapy	1246	56.10	0.98	1.11***	1.09***	43.90	1.02	0.89***	0.90***
Pharmacy and Allied Fields	2712	55.49	0.97	1.10***	1.08***	44.51	1.03	0.90***	0.92***
Optometry	116	53.45	0.94	1.06	1.04	46.55	1.08	0.94	0.96
Veterinary Medicine & Allied Fields	142	47.18	0.83*	0.94	0.92	52.82	1.23*	1.07	1.09
Speech Pathology	337	43.32	0.76***	0.86**	0.84**	56.68	1.32***	1.14**	1.17**
Medicine	8225	41.12	0.72***	0.81***	0.80***	58.88	1.37***	1.19***	1.21***
Occupational Therapy	841	40.43	0.71***	0.80***	0.79***	59.57	1.38***	1.20***	1.23***
Social Work	309	35.28	0.62***	0.70***	0.69***	64.72	1.50***	1.31***	1.33***
Psychological & Counseling Services	2453	33.02	0.58***	0.65***	0.64***	66.98	1.56***	1.35***	1.38***
All Health Fields	32271	51.37	0.90***	0.92***	1.00	48.63	1.13***	1.10***	1.00
			THINKING TYPES				FEELING TYPES		
Physician Extender Services	323	51.08	1.46***	1.41***	1.41***	48.92	0.75***	0.77***	0.77***
Pharmacy and Allied Fields	2712	46.87	1.34***	1.29***	1.29***	53.13	0.82***	0.83***	0.83***
Dentistry and Allied Fields	1282	46.18	1.32***	1.27***	1.27***	53.82	0.83***	0.85***	0.85***
Medicine	8225	44.36	1.26***	1.22***	1.22***	55.64	0.86***	0.87***	0.87***
Respiratory Therapy	480	41.46	1.18**	1.14*	1.14*	58.54	0.90**	0.92*	0.92*
Clinical Laboratory Services	1888	41.15	1.17***	1.13***	1.13***	58.85	0.91***	0.92***	0.92***
Optometry	116	39.66	1.13	1.09	1.09	60.34	0.93	0.95	0.95
Dietetic & Nutritional Services	524	36.83	1.05	1.01	1.01	63.17	0.97	0.99	0.99
Other Health Related Fields	866	36.03	1.03	0.99	0.99	63.97	0.99	1.00	1.00
Veterinary Medicine & Allied Fields	142	35.92	1.02	0.99	0.99	64.08	0.99	1.01	1.01
Radiologic Technology	267	32.58	0.93	0.90	0.90	67.42	1.04	1.06	1.06
Psychological & Counseling Services	2453	31.35	0.89***	0.86***	0.86***	68.65	1.06***	1.08***	1.08***
Physical Therapy	1246	28.49	0.81***	0.78***	0.78***	71.51	1.10***	1.12***	1.12***
Speech Pathology	337	28.19	0.80**	0.78**	0.78**	71.81	1.11**	1.13**	1.13**
Social Work	309	28.16	0.80*	0.78**	0.78**	71.84	1.11*	1.13**	1.13**
Nursing and Allied Fields	10260	27.74	0.79***	0.76***	0.76***	72.26	1.11***	1.13***	1.13***
Occupational Therapy	841	26.99	0.77***	0.74***	0.74***	73.01	1.12***	1.15***	1.15***
All Health Fields	32271	36.32	1.03	1.11***	1.00	63.68	0.98	0.95***	1.00
			JUDGING TYPES				PERCEPTIVE TYPES		
Physician Extender Services	323	69.97	1.61***	1.29***	1.18***	30.03	0.53***	0.65***	0.74***
Dietetic & Nutritional Services	524	68.70	1.58***	1.27***	1.16***	31.30	0.55***	0.68***	0.77***
Dentistry and Allied Fields	1282	67.63	1.55***	1.25***	1.14***	32.37	0.57***	0.70***	0.79***
Clinical Laboratory Services	1888	64.78	1.49***	1.20***	1.09***	35.22	0.62***	0.77***	0.86***
Optometry	116	64.66	1.49***	1.20*	1.09	35.34	0.63***	0.77*	0.87
Nursing and Allied Fields	10260	60.97	1.40***	1.13***	1.03***	39.03	0.69***	0.85***	0.96***
Medicine	8225	60.41	1.39***	1.12***	1.02**	39.59	0.70***	0.86***	0.97**
Other Health Related Fields	866	59.58	1.37***	1.10**	1.01	40.42	0.72***	0.88**	0.99
Pharmacy and Allied Fields	2712	59.66	1.37***	1.10***	1.01	40.34	0.71***	0.88***	0.99
Physical Therapy	1246	55.62	1.28***	1.03	0.94**	44.38	0.79***	0.97	1.09**
Veterinary Medicine & Allied Fields	142	53.52	1.23*	0.99	0.90	46.48	0.82*	1.01	1.14
Respiratory Therapy	480	53.33	1.23***	0.99	0.90**	46.67	0.83***	1.02	1.14**
Occupational Therapy	841	49.82	1.14***	0.92*	0.84***	50.18	0.89***	1.09*	1.23***
Radiologic Technology	267	49.81	1.14*	0.92	0.84**	50.19	0.89*	1.09	1.23**
Speech Pathology	337	48.37	1.11	0.89*	0.82***	51.63	0.91	1.12*	1.26***
Psychological & Counseling Services	2453	45.62	1.05	0.84***	0.77***	54.38	0.96	1.18***	1.34***
Social Work	309	42.07	0.97	0.78***	0.71***	57.93	1.03	1.26***	1.42***
All Health Fields	32271	59.18	1.36***	1.12***	1.00	40.82	0.72***	0.86***	1.00

Notes: Ratio A compares students and practitioners in each health field to the CAPT data bank sample of 6,738 high school junior and seniors

Ratio B compares students and practitioners in each health field to the CAPT data bank sample of 36,714 college and graduate students

Ratio C compares students and practitioners in each health field to the 32,271 composite sample of all health students and practitioners.

Fields are ranked in order of Ratio A.

Ratio = % in health field ÷ % in comparison populations A, B or C (or $\text{Frequency}_{obs} \div \text{Frequency}_{exp}$).

For all tables in this report, * $p < .05$, ** $p < .01$ and *** $p < .001$.

2. Sensing-Intuitive Differences in Health Fields

The widest range of MBTI differences in health fields appears here. The range is from 60% sensing in radiologic technologists to 67% intuitive for psychological and counseling services.

In theory, fields more attractive to sensing types should emphasize the practical and immediate tasks of patient care or technical skills. Health fields with significantly more sensing types than both college students and other health professions are radiologic technology, clinical laboratory services, nursing, dentistry, dietetic and nutritional services, respiratory therapy, physician extender services, and pharmacy.

Fields more attractive to intuitive types should emphasize the meaning and interpretation of complex systems, ability to work at an abstract or theoretical level, and sensitivity to symbols, as in communications. Health fields with significantly more intuitive types are psychological and counseling services, social work, occupational therapy, medicine, and speech pathology.

It is implicit in the theory that sensing types and intuitive types perceive the same situations differently; sensing types will be experts in each tree but may miss major changes in the forest; intuitive types see the forest and its patterns clearly, but may overlook the details of individual trees. One way to group health fields into families would be to use the sensing-intuition differences. Even without such grouping, we would expect that fields at two extremes of this distributions would have most difficulty in finding common approaches to health care problems.

3. Thinking-Feeling Differences in Health Fields

Health fields attract feeling types. The range is from 49% feeling for physician extenders to 73% feeling for occupational therapists. These rankings are confounded with the fact that TF is the only MBTI preference with a sex difference— proportionately more females prefer feeling. The result is that fields at the top of the scale, evenly divided between thinking and feeling types, are fields where the majority of practitioners are males; the fields where about three-fourths of practitioners are feeling types are also fields where the majority of practitioners are females. It will be remembered, however, that in most fields health practitioners and students have significantly more feeling types than are found in their own sex in high school or college.

In theory, thinking types should be relatively more attracted by the technical and scientific aspects of health care, and activities where objectivity and firmness are an advantage. The fields with relatively more thinking types are physician extender services, pharmacy, dentistry, medicine, respiratory therapy, and clinical laboratory services. (Keep in mind that feeling types are in the majority in these fields, however.)

In theory, feeling types should be attracted to health professions by the human needs to be met and the opportunities to serve through patient care. Health fields with relatively more feeling types are occupational therapy, nursing, social work, speech pathology, physical therapy, and psychological and counseling services.

4. Judging-Perceptive Differences in Health Fields

Health fields attract judging types. Fifty-nine percent of the composite of all health professions prefer the decisive, organized judging attitude. Some judging types seek lives where they can organize and control events. Others may not necessarily wish to be the executives in control, but they do wish to live and work in settings that are systematic and predictable. All but three health fields had significantly more judging types than are found in high school.

Compared to college and graduate students, the health fields with relatively more judging types are physician extender services, dietetic and nutritional services, dentistry, clinical laboratory services, optometry, nursing, medicine, and pharmacy.

The perceptive types in theory have a special interest in understanding situations, and in noticing new events and changes that may require adaptation of former ways. The fields relatively more attractive to perceptive types are social work, paychological and counseling services, speech pathology, and occupational therapy.

In summary, the data at this early stage show that the health professions and occupations significantly attract feeling types and judging types, i.e. the people who wish to order their worlds in terms of human values. The health fields are more evenly divided in terms of extraversion-introversion and sensing-intuition. There is considerable correspondence between the rankings of the health fields for MBTI preferences, and the rankings that would be expected from type theory.

While the rankings of the four preferences are useful in testing the utility of Jung's theory for increasing understanding of health manpower, they are not very useful for counseling individuals making career decisions. Each of the 16 types has its own specified relationships among the four MBTI preferences.

Tables 37 through 52 show the rankings of health fields for the 16 MBTI types. In these tables, the fields are not limited to composite samples. Within the composites, fields which have at least 40 people were included.

The tables show the health profession or occupation, then the total number of students and practitioners on whom we found MBTI data. Columns three and four show the number and percent in the health field for the MBTI type ranked in the table. The last column shows the selection ratio, and its probability. Ratios compare health fields with the 11,122 college freshmen (including both college and junior college) in the CAPT data Bank.

Table 37
Attractiveness of Fields of Health to ISTJ

FIELDS OF HEALTH	NUMBER IN FIELD		% in Field who are ISTJ	RATIO
	Total	ISTJ		
Dentistry	1,098	139	12.66	1.86***
Laboratory Technology	167	20	11.98	1.76**
Pharmacy	2,712	308	11.36	1.67***
Medical Technology	1,678	184	10.97	1.61***
Medicine	7,863	758	9.64	1.42**
Optometry	116	11	9.48	1.39
Physician Extender	323	30	9.29	1.36
Physical Therapy	1,246	115	9.23	1.36**
Respiratory Therapy	480	44	9.17	1.35*
Veterinary Medicine	142	13	9.15	1.35
Dietetics and Nutrition	524	47	8.97	1.32
Health Administration	60	5	8.33	1.22
Health Education	182	15	8.24	1.21
Medical Records Admin.	98	8	8.16	1.20
Radiologic Technology	267	20	7.49	1.10
Nursing: LPN	183	13	7.10	1.04
Nursing: RN	9,507	665	6.99	1.03
Counseling	766	47	6.14	.90
Cardiovascular Technology	52	3	5.77	.85
Physical Therapy Ass't	93	5	5.38	.79
Occupational Therapy	841	37	4.40	.65**
Psychology	1,132	41	3.62	.53***
Speech Pathology	337	12	3.56	.52*
Rehabiliation Counseling	148	5	3.38	.50
Social Work	309	10	3.24	.48*
Medical Assistant	78	2	2.56	.38
Dental Assistant	94	2	2.13	.31
Medical Communication	48	1	2.08	.31
Clinical Psychology	153	2	1.31	.19**
Dental Hygiene	77	1	1.30	.19
TOTAL HEALTH SAMPLE	32,271	2,697	8.36	1.23***
COLLEGE FRESHMEN	11,122	757	6.81	1.00

Notes: Ratio = % ISTJ in health field ÷ @ ISTJ in College Freshmen (or $\text{Frequency}_{obs} \div \text{Frequency}_{exp}$).

Ratios significantly more than 1.00 indicate fields attractive to ISTJ; ratios significantly less than 1.00 indicate fields avoided by ISTJ.

* $p < .05$, ** $p < .01$, and *** $p < .001$.

Table 38
Attractiveness of Fields of Health to ISFJ

FIELDS OF HEALTH	NUMBER IN FIELD		% in Field who are ISFJ	RATIO
	Total	ISFJ		
Dental Hygiene	77	18	23.38	2.39***
Medical Records Admin.	98	21	21.43	2.19***
Nursing: LPN	183	36	19.67	2.01***
Health Education	182	27	14.84	1.52*
Medical Technology	1,678	249	14.84	1.52***
Dental Assistant	94	13	13.83	1.42
Health Administration	60	8	13.33	1.36
Nursing: RN	9,507	1,225	12.89	1.32***
Dietetics and Nutrition	524	65	12.40	1.27*
Optometry	116	14	12.07	1.23
Pharmacy	2,712	291	10.73	1.10
Respiratory Therapy	480	47	9.79	1.00
Physical Therapy	1,246	121	9.71	.99
Physical Therapy Ass't	93	9	9.68	.99
Occupational Therapy	841	91	9.63	.99
Laboratory Technology	167	16	9.58	.98
Dentistry	1,098	105	9.56	.98
Rehabiliation Counseling	149	14	9.46	.97
Radiologic Technology	267	25	9.36	.96
Medicine	7,863	634	8.06	.83***
Veterinary Medicine	142	11	7.75	.79
Cardiovascular Technology	52	4	7.69	.79
Social Work	309	23	7.44	.76
Physician Extender	323	23	7.12	.73
Speech Pathology	337	22	6.53	.67*
Medical Assistant	78	5	6.41	.66
Counseling	766	43	5.61	.57***
Psychology	1,132	43	3.80	.39***
Clinical Psychology	153	5	3.27	.33**
Medical Communication	48	1	2.08	.21
TOTAL HEALTH SAMPLE	32,271	3,395	10.52	1.08*
COLLEGE FRESHMEN	11,122	1,087	9.77	1.00

Notes: Ratio = % ISFJ in health field ÷ % ISFJ in College Freshmen (or $\text{Frequency}_{obs} \div \text{Frequency}_{exp}$).

Ratios significantly more than 1.00 indicate fields attractive to ISFJ; ratios significantly less than 1.00 indicate fields avoided by ISFJ.

* $p < .05$, ** $p < .01$, and *** $p < .001$.

Table 39
Attractiveness of Fields of Health to ISTP

FIELDS OF HEALTH	NUMBER IN FIELD		% in Field who are ISTP	RATIO
	Total	ISTP		
Cardiovascular Technology	52	3	5.77	2.15
Health Administration	60	3	5.00	1.86
Pharmacy	2,712	112	4.13	1.54***
Physical Therapy	1,246	42	3.37	1.25
Dental Assistant	94	3	3.19	1.19
Dietetics and Nutrition	524	14	2.67	.99
Speech Pathology	337	9	2.67	.99
Optometry	116	3	2.59	.96
Medical Assistant	78	2	2.56	.95
Medical Technology	1,678	42	2.50	.93
Respiratory Therapy	480	12	2.50	.93
Medicine	7,863	195	2.48	.92
Dentistry	1,098	25	2.28	.85
Social Work	309	7	2.27	.84
Nursing: LPN	183	4	2.19	.81
Physician Extender	323	7	2.17	.81
Psychology	1,132	23	2.03	.76
Clinical Psychology	153	3	1.96	.73
Nursing: RN	9,507	174	1.83	.68***
Health Education	182	3	1.65	.61
Occupational Therapy	841	13	1.55	.57*
Radiologic Technology	267	4	1.50	.56
Counseling	766	11	1.44	.53*
Veterinary Medicine	142	2	1.41	.52
Laboratory Technology	167	2	1.20	.45
Physical Therapy Ass't	93	1	1.08	.40
Rehabilitation Counseling	148	1	.68	.25
Dental Hygiene	77	0	.00	.00
Medical Communications	48	0	.00	.00
Medical Records Admin.	98	0	.00	.00
TOTAL HEALTH SAMPLE	32,271	756	2.34	.87*
COLLEGE FRESHMEN	11,122	299	2.69	1.00

Notes: Ratio = % ISTP in health field ÷ % ISTP in College Freshmen (or Frequency$_{obs}$ ÷ Frequency$_{exp}$).

Ratios significantly more than 1.00 indicate fields attractive to ISTP; ratios significantly less than 1.00 indicate fields avoided by ISTP.

* $p < .05$, ** $p < .01$, and *** $p < .001$.

Table 40
Attractiveness of Fields of Health to ISFP

FIELDS OF HEALTH	NUMBER IN FIELD		% in Field who are ISFP	RATIO
	Total	ISFP		
Physical Therapt Ass't	93	12	12.90	1.99*
Dental Assistant	94	9	9.57	1.48
Radiologic Technology	267	22	8.24	1.27
Medical Assistant	78	6	7.69	1.19
Medical Records Admin.	98	7	7.14	1.10
Nursing: LPN	183	13	7.10	1.10
Rehabilitation Counseling	148	10	6.76	1.04
Respiratory Therapy	480	32	6.67	1.03
Dental Hygiene	77	5	6.49	1.00
Speech Pathology	337	21	6.23	.96
Health Education	182	11	6.04	.93
Physical Therapy	1,246	75	6.02	.93
Laboratory Technology	167	10	5.99	.92
Medical Technology	1,678	97	5.78	.89
Cardiovascular Technology	52	3	5.77	.89
Nursing: RN	9,507	526	5.64	.87*
Veterinary Medicine	142	8	5.63	.87
Occupational Therapy	841	40	4.76	.73*
Pharmacy	2,712	125	4.61	.71***
Optometry	116	5	4.31	.67
Counseling	766	29	3.79	.58**
Dentistry	1,098	39	3.55	.55***
Dietetics and Nutrition	524	17	3.24	.50**
Social Work	309	9	2.91	.45*
Medicine	7,863	222	2.82	.44***
Psychology	1,132	26	2.30	.35***
Medical Communication	48	1	2.08	.32
Clinical Psychology	153	3	1.96	.30*
Physician Extender	323	5	1.55	.24***
Health Administration	60	0	.00	.00
TOTAL HEALTH SAMPLE	32,271	1,472	4.56	.70***
COLLEGE FRESHMEN	11,122	720	6.47	1.00

Notes: Ratio = % ISFP in health field ÷ % ISFP in College Freshmen (or Frequency$_{obs}$ ÷ Frequency$_{exp}$).

Ratios significantly more than 1.00 indicate fields attractive to ISFP; ratios significantly less than 1.00 indicate fields avoided by ISFP.

* $p < .05$, ** $p < .01$, and *** $p < .001$.

Table 41
Attractiveness of Fields of Health to E S T P

FIELDS OF HEALTH	NUMBER IN FIELD		% in Field who are ESTP	RATIO
	Total	ESTP		
Medical Communications	48	3	6.25	2.36
Laboratory Technology	167	7	4.19	1.58
Radiologic Technology	267	10	3.75	1.41
Optometry	116	4	3.45	1.30
Health Administration	60	2	3.33	1.26
Physician Extender	323	9	2.79	1.05
Pharmacy	2,712	75	2.77	1.04
Health Education	182	5	2.75	1.04
Dental Hygiene	77	2	2.60	.98
Respiratory Therapy	480	12	2.50	.94
Physical Therapy	1,246	24	1.93	.73
Cardiovascular Technology	52	1	1.92	.73
Dentistry	1,098	21	1.91	.72
Medical Technology	1,678	31	1.85	.70*
Speech Pathology	337	6	1.78	.67
Nursing: RN	9,507	164	1.73	.65***
Dietetics and Nutrition	524	9	1.72	.65
Medicine	7,863	133	1.69	.64***
Social Work	309	5	1.62	.61
Psychology	1,132	16	1.41	.53*
Veterinary Medicine	142	2	1.41	.53
Clinical Psychology	153	2	1.31	.49
Counseling	766	10	1.31	.49*
Occupational Therapy	841	11	1.31	.49*
Nursing: LPN	183	2	1.09	.41
Medical Records Admin.	98	1	1.02	.38
Dental Assistant	94	0	.00	.00
Medical Assistant	78	0	.00	.00
Physical Therapy Ass't	93	0	.00	.00
Rehabilitation Counseling	148	0	.00	.00
TOTAL HEALTH SAMPLE	32,271	619	1.92	.72***
COLLEGE FRESHMEN	11,122	295	2.65	1.00

Notes: Ratio = % ESTP in health field ÷ % ISTP in College Freshmen (or Frequency$_{obs}$ ÷ Frequency$_{exp}$).

Ratios significantly more than 1.00 indicate fields attractive to ESTP; ratios significantly less than 1.00 indicate fields avoided by ESTP.

* $p < .05$, ** $p < .01$ and *** $p < .001$.

Table 42
Attractiveness of Fields of Health to E S F P

FIELDS OF HEALTH	NUMBER IN FIELD		% in Field who are ESFP	RATIO
	Total	ESFP		
Medical Communications	48	8	16.67	2.40**
Physical Therapy Ass't	93	13	13.98	2.02**
Medical Assistant	78	10	12.82	1.85*
Dental Assistant	94	10	10.63	1.53
Medical Records Admin.	98	9	9.18	1.32
Dental Hygiene	77	7	9.09	1.31
Radiologic Technology	267	24	8.99	1.30
Respiratory Therapy	480	41	8.54	1.23
Nursing: LPN	183	13	7.10	1.02
Physical Therapy	1,246	88	7.06	1.02
Social Work	309	21	6.80	.98
Rehabilitation Counseling	148	10	6.76	.97
Laboratory Technologist	167	11	6.59	.95
Nursing: RN	9,507	544	5.72	.83***
Speech Pathology	337	19	5.64	.81
Dietetics and Nutrition	524	26	4.96	.72
Pharmacy	2,712	113	4.17	.60***
Medical Technology	1,678	68	4.05	.58***
Occupational Therapy	841	33	3.92	.57***
Counseling	766	29	3.79	.55***
Veterinary Medicine	142	5	3.52	.51
Optometry	116	4	3.45	
Dentistry	1,098	34	3.10	.45***
Psychology	1,132	35	3.09	.45***
Medicine	7,863	204	2.59	.37***
Health Education	182	4	2.20	.32*
Cardiovascular Technology	52	1	1.92	.28
Physician Extender	323	6	1.86	.27***
Health Administration	60	0	.00	.00
Clinical Psychology	153	0	.00	.00
TOTAL HEALTH SAMPLE	32,271	1,489	4.61	.67***
COLLEGE FRESHMEN	11,122	771	6.93	1.00

Notes: Ratio = % ESFP in health field ÷ % ESFP in College Freshmen (or Frequency$_{obs}$ ÷ Frequency$_{exp}$).

Ratios significantly more than 1.00 indicate fields attractive to ESFP; ratios significantly less than 1.00 indicate fields avoided by ESFP.

* $p < .05$, ** $< .01$ and *** $p < .001$.

Table 43
Attractiveness of Fields of Health to E S T J

FIELDS OF HEALTH	NUMBER IN FIELD		% in Field who are ESTJ	Ratio
	Total	ESTJ		
Physician Extender	323	54	16.72	2.13***
Dentistry	1,098	148	13.48	1.72***
Nursing: LPN	183	21	11.48	1.46
Laboratory Technologist	167	18	10.78	1.37
Dental Hygiene	77	8	10.39	1.32
Medical Technology	1,678	169	10.07	1.28**
Dental Assistant	94	9	9.57	1.22
Pharmacy	2,712	246	9.07	1.16*
Dietetics and Nutrition	524	47	8.97	1.14
Medical Assistant	78	7	8.97	1.14
Respiratory Therapy	480	40	8.33	1.06
Radiologic Technology	267	22	8.24	1.05
Cardiovascular Technology	52	4	7.69	.98
Nursing: RN	9,507	699	7.35	.94
Counseling	766	54	7.05	.90
Veterinary Medicine	142	10	7.04	.90
Medicine	7,863	553	7.03	.90*
Social Work	309	21	6.80	.87
Rehabilitation Counseling	148	10	6.76	.86
Health Education	182	12	6.59	.84
Physical Therapy Ass't	93	6	6.45	.82
Medical Communications	48	3	6.25	.80
Medical Records Admin.	98	6	6.12	.78
Optometry	118	7	6.03	.77
Physical Therapy	1,246	64	5.14	.65***
Speech Pathology	337	17	5.04	.64
Occupational Therapy	841	40	4.76	.61**
Psychology	1,132	40	3.53	.45***
Health Administration	60	2	3.33	.42
Clinical Psychology	153	1	.65	.08**
TOTAL HEALTH SAMPLE	32,271	2,499	7.74	.99
COLLEGE FRESHMEN	11,122	873	7.85	1.00

Notes: Ratio = % ESTJ in health field ÷ % ESTJ in College Freshmen (or $\text{Frequency}_{obs} \div \text{Frequency}_{exp}$).

Ratios significantly more than 1.00 indicate fields attractive to ESTJ; ratios significantly less than 1.00 indicate fields avoided by ESTJ.

* *p* <.05, ** *p* <.01 and *** *p* <.001.

Table 44
Attractiveness of Fields of Health to E S F J

FIELDS OF HEALTH	NUMBER IN FIELD		% in Field who are ESFJ	Ratio
	Total	ESFJ		
Dental Hygiene	94	17	18.09	1.45
Nursing: LPN	183	32	17.49	1.40*
Medical Records Admin.	98	17	17.35	1.39
Dental Hygiene	77	13	16.88	1.35
Nursing: RN	9,507	1,538	16.18	1.30***
Dietetics and Nutrition	524	83	15.84	1.27*
Physician Extender	323	51	15.79	1.26
Medical Assistant	78	12	15.38	1.23
Health Education	182	27	14.84	1.19
Physical Therapy	1,246	170	13.64	1.09
Physical Therapy Ass't	93	12	12.90	1.03
Radiologic Technology	267	34	12.73	1.02
Optometry	116	14	12.07	.97
Speech Pathology	337	40	11.87	.95
Dentistry	1,098	128	11.66	.93
Veterinary Medicine	142	16	11.27	.90
Respiratory Therapy	480	52	10.83	.87
Medical Technology	1,678	175	10.43	.84*
Occupational Therapy	841	85	10.11	.81*
Pharmacy	2,712	235	8.67	.69***
Medical Communications	48	4	8.33	.67
Laboratory Technology	167	13	7.78	.62
Counseling	766	59	7.70	.62***
Cardiovascular Technology	52	4	7.69	.62
Health Administration	60	4	6.67	.53
Medicine	7,863	524	6.66	.53***
Rehabilitation Counseling	148	7	4.73	.38**
Social Work	309	13	4.21	.34***
Psychology	1,132	33	2.92	.23***
Clinical Psychology	153	2	1.31	.10***
TOTAL HEALTH SAMPLE	32,271	3,652	11.32	.91***
COLLEGE FRESHMEN	11,122	1,389	12.49	1.00

Notes: Ratio = % ESFJ in health field ÷ ESFJ in College Freshmen (or $\text{Frequency}_{obs} \div \text{Frequency}_{exp}$).

Ratios significantly more than 1.00 indicate fields attractive to ESFJ; ratios significantly less than 1.00 indicate fields avoided by ESFJ.

* *p* <.05, ** *p* <.01 and *** *p* <.001.

Table 45
Attractiveness of Fields of Health to INFJ

FIELDS OF HEALTH	NUMBER IN FIELD		% in Field who are INFJ	RATIO
	Total	INFJ		
Clinical Psychology	153	22	14.38	3.58***
Medical Assistant	78	7	8.97	2.23*
Optometry	116	10	8.62	2.14*
Medicine	7,863	593	7.54	1.88***
Social Work	309	22	7.12	1.77**
Counseling	766	51	6.56	1.66***
Psychology	1,132	72	6.36	1.58***
Physical Therapy Ass't	93	5	5.38	1.34
Occupational Therapy	841	45	5.35	1.33
Physical Therapy	1,246	66	5.30	1.32*
Medical Technology	1,678	81	4.83	1.20
Nursing: RN	9,507	453	4.76	1.19**
Pharmacy	2,712	126	4.65	1.16
Speech Pathology	337	15	4.45	1.11
Medical Communications	48	2	4.17	1.04
Dentistry	1,098	44	4.01	1.00
Health Education	182	7	3.85	.96
Dietetics and Nutrition	524	19	3.63	.90
Rehabilitation Counseling	148	5	3.38	.84
Respiratory Therapy	480	16	3.33	.83
Medical Records Admin.	98	3	3.06	.76
Laboratory Technologist	167	5	2.99	.74
Veterinary Medicine	142	4	2.82	.70
Dental Hygiene	77	2	2.60	.65
Physician Extender	323	8	2.48	.62
Nursing: LPN	183	4	2.19	.54
Dental Assistants	94	2	2.13	.53
Radiologic Technology	267	5	1.87	.47
Health Administration	60	1	1.67	.41
Cardiovascular Technology	52	0	.00	.00
TOTAL HEALTH SAMPLE	32,271	1,725	5.35	1.33***
COLLEGE FRESHMEN	11,122	447	4.02	1.00

Notes: Ratio = % INFJ in health field ÷ % INFJ in College Freshmen (or $\text{Frequency}_{obs} \div \text{Frequency}_{exp}$).

Ratios significantly more than 1.00 indicate fields attractive to INFJ; ratios significantly less than 1.00 indicate fields avoided by INFJ.

* $p < .05$, ** $p < .01$ and *** $p < .001$.

Table 46
Attractiveness of Fields of Health to INTJ

FIELDS OF HEALTH	NUMBER IN FIELD		% in Field who are INTJ	RATIO
	Total	INTJ		
Cardiovascular Technology	52	6	11.54	4.11***
Optometry	116	8	6.90	2.46**
Medicine	7,863	540	6.87	2.45***
Clinical Psychology	153	10	6.54	2.33**
Veterinary Medicine	142	9	6.34	2.26*
Dentistry	1,098	62	5.65	2.01***
Psychology	1,132	61	5.39	1.92***
Health Education	182	9	4.95	1.76
Laboratory Technology	167	8	4.79	1.71
Pharmacy	2,712	129	4.76	1.70***
Physician Extender	323	15	4.64	1.66*
Medical Technology	1,678	76	4.53	1.61***
Medical Communications	48	2	4.17	1.49
Medical Records Admin.	98	4	4.08	1.45
Social Work	309	11	3.56	1.27
Dietetics and Nutrition	524	17	3.24	1.16
Respiratory Therapy	480	15	3.13	1.11
Rehabilitation Counseling	148	4	2.70	.96
Speech Pathology	337	9	2.67	.95
Dental Hygiene	77	2	2.60	.93
Medical Assistant	78	2	2.56	.91
Nursing: RN	9,507	233	2.45	.87
Occupational Therapy	841	20	2.38	.85
Counseling	766	18	2.35	.84
Radiologic Technology	267	6	2.25	.80
Physical Therapy	1,246	27	2.17	.77
Health Administration	60	1	1.67	.59
Physical Therapy Ass't	93	1	1.08	.38
Dental Assistant	94	1	1.06	.38
Nursing: LPN	183	1	.55	.19
TOTAL HEALTH SAMPLE	32,271	1,311	4.06	1.45***
COLLEGE FRESHMEN	11,122	312	2.81	1.00

Notes: Ratio = % INTJ in health field ÷ % INTJ in College Freshmen (or $\text{Frequency}_{obs} \div \text{Frequency}_{exp}$).

Ratios significantly more than 1.00 indicate fields attractive to INTJ; ratios significantly less than 1.00 indicate fields avoided by INTJ.

* $p < .05$, ** $p < .01$ and *** $p < .001$.

Table 47
Attractiveness of Fields of Health to INFP

FIELDS OF HEALTH	NUMBER IN FIELD		% in Field who are INFP	RATIO
	Total	INFP		
Clinical Psychology	153	41	26.80	2.94***
Psychology	1,132	219	19.35	2.12***
Rehabilitation Counseling	148	27	18.24	2.00***
Veterinary Medicine	142	19	13.38	1.47
Laboratory Technologist	167	22	13.17	1.44
Social Work	309	39	12.62	1.38*
Counseling	766	93	12.14	1.33**
Physical Therapy Ass't	83	10	10.75	1.18
Medicine	7,863	796	10.12	1.11*
Speech Pathology	337	33	9.79	1.07
Physical Therapy	1,246	112	8.99	.99
Occupational Therapy	841	74	8.80	.97
Health Administration	60	5	8.33	.91
Nursing: RN	9,507	744	7.83	.86***
Dental Hygiene	77	6	7.79	.85
Nursing: LPN	183	14	7.65	.84
Pharmacy	2,712	191	7.04	.77***
Medical Technology	1,678	115	6.85	.75**
Radiologic Technology	267	18	6.74	.74
Dietetics and Nutrition	524	33	6.30	.69*
Medical Communications	48	3	6.25	.69
Dentistry	1,098	63	5.74	.63***
Dental Assistant	94	5	5.32	.58
Health Education	182	9	4.95	.54
Physician Extender	323	16	4.95	.54**
Respiratory Therapy	480	20	4.17	.46***
Medical Records Admin.	98	4	4.08	.45
Medical Assistant	78	3	3.85	.42
Optometry	116	4	3.45	.38*
Cardiovascular Technology	52	1	1.92	.21
TOTAL HEALTH SAMPLE	32,271	2,822	8.74	.96
COLLEGE FRESHMEN	11,122	1,014	9.12	1.00

Notes: Ratio = % INFP in health field ÷ % INFP in College Freshmen (or $\text{Frequency}_{obs} \div \text{Frequency}_{exp}$).

Ratios significantly more than 1.00 indicate fields attractive to INFP; ratios significantly less than 1.00 indicate fields avoided by INFP.

* *P* <.05, ** *P* <.01 and *** *P* <.001.

Table 48
Attractiveness of Fields of Health to INTP

FIELDS OF HEALTH	NUMBER IN FIELD		% in Field who are INTP	RATIO
	Total	INTP		
Medicine	7.863	473	6.02	1.91***
Psychology	1,132	67	5.92	1.88***
Pharmacy	2,712	144	5.32	1.69***
Respiratory Therapy	480	24	5.00	1.59*
Optometry	116	5	4.31	1.37
Occupational Therapy	841	36	4.28	1.36
Rehabilitation Counseling	148	6	4.05	1.29
Cardiovascular Technology	52	2	3.85	1.22
Medical Assistant	78	3	3.85	1.22
Dentistry	1,098	41	3.73	1.19
Physician Extender	323	12	3.72	1.18
Laboratory Technologist	166	6	3.59	1.14
Veterinary Medicine	142	5	3.52	1.12
Medical Technology	1,678	56	3.34	1.06
Clinical Psychology	153	5	3.27	1.04
Speech Pathology	337	11	3.26	1.04
Social Work	309	10	3.24	1.03
Physical Therapy Ass't	93	2	2.15	.68
Nursing: RN	9,507	203	2.14	.68***
Counseling	766	16	2.09	.66
Medical Communications	48	1	2.08	.66
Medical Records Admin.	98	2	2.04	.65
Radiologic Technology	267	5	1.87	.60
Dietetics and Nutrition	524	9	1.72	.55
Physical Therapy	1,246	21	1.69	.54**
Health Administragion	60	1	1.67	.53
Dental Hygiene	77	1	1.30	.41
Health Education	182	2	1.10	.35
Dental Assistants	94	1	1.06	.34
Nursing: LPN	183	0	.00	.00
TOTAL HEALTH SAMPLE	32,271	1,192	3.69	1.17**
COLLEGE FRESHMEN	11,122	350	3.15	1.00

Notes: Ratio = % INTP in health field ÷ % INTP in College Freshmen (or $\text{Frequency}_{obs} \div \text{Frequency}_{exp}$).

Ratios significantly more than 1.00 indicate fields attractive to INTP; ratios signifcantly less than 1.00 indicate fields avoided by INTP.

* *P* <.05, ** *P* <.01 and *** *P* <.001.

Table 49
Attractiveness of Fields of Health to ENFP

FIELDS OF HEALTH	NUMBER IN FIELD Total	NUMBER IN FIELD ENFP	% in Field who are ENFP	RATIO
Medical Communications	48	13	27.08	2.13**
Social Work	309	72	23.30	1.83***
Occupational Therapy	841	195	23.19	1.82***
Rehabilitation Counseling	148	31	20.95	1.65**
Counseling	766	158	20.63	1.62***
Psychology	1,132	217	19.17	1.51***
Speech Pathology	337	59	17.51	1.38**
Clinical Psychology	153	25	16.34	1.29
Veterinary Medicine	142	22	15.49	1.22
Medical Assistant	78	12	15.38	1.21
Radiologic Technology	267	37	13.86	1.09
Dental Assistant	94	13	13.83	1.09
Physical Therapy	1,246	159	12.76	1.00
Optometry	116	14	12.07	.95
Nursing: RN	9,507	1,065	11.20	.88***
Respiratory Therapy	480	49	10.21	.80
Medicine	7,863	785	9.98	.79***
Nursing: LPN	183	17	9.29	.73
Dental Hygiene	77	7	9.09	.72
Physician Extender	323	25	7.74	.61**
Health Education	182	14	7.69	.61*
Pharmacy	2,712	206	7.60	.60***
Physical Therapy Ass't	93	7	7.53	.59
Dietetics and Nutrition	524	33	7.25	.57***
Medical Records Admin.	98	7	7.14	.56
Medical Technology	1,678	118	7.03	.55***
Dentistry	1,098	72	6.56	.52***
Laboratory Technology	167	9	5.29	.42**
Health Administration	60	3	5.00	.39
Cardiovascular Technology	52	2	3.85	.30*
TOTAL HEALTH SAMPLE	32,271	3,653	11.32	.89***
COLLEGE FRESHMEN	11,122	1,414	12.71	1.00

Notes: Ratio = % ENFP in health field ÷ % ENFP in College Freshmen (or $\text{Frequency}_{obs} \div \text{Frequency}_{exp}$).

Ratios significantly over 1.00 indicate fields attractive to ENFP; ratios significantly less than 1.00 indicate fields avoided by ENFP.

* *p* <.05, ** *p* <.01 and *** *p* <.001.

Table 50
Attractiveness of Fields of Health to ENTP

FIELDS OF HEALTH	NUMBER IN FIELD Total	NUMBER IN FIELD ENTP	% in Field who are ENTP	RATIO
Clinical Psychology	153	11	7.19	2.05*
Respiratory Therapy	480	34	7.08	2.02***
Psychology	1,132	78	6.89	1.97***
Health Administration	60	4	6.67	1.90
Health Education	182	12	6.59	1.88*
Cardiovascular Technology	52	3	5.77	1.65
Physician Extender	323	17	5.26	1.50
Radiologic Technology	267	14	5.24	1.50
Social Work	309	16	5.18	1.48
Speech Pathology	337	16	4.75	1.35
Pharmacy	2,712	128	4.72	1.35**
Physical Therapy Ass't	93	4	4.30	1.23
Medicine	7,863	332	4.22	1.20*
Dentistry	1,098	46	4.19	1.19
Counseling	766	31	4.05	1.15
Medical Assistant	78	3	3.85	1.10
Laboratory Technologist	167	6	3.59	1.02
Dietetics and Nutrition	524	18	3.44	.98
Nursing: LPN	183	5	2.73	.78
Nursing: RN	9,507	253	2.66	.76***
Physical Therapy	1,246	32	2.57	.73
Medical Technology	1,678	43	2.56	.73*
Occupational Therapy	841	20	2.38	.68
Veterinary Medicine	142	3	2.11	.60
Medical Communications	48	1	2.08	.59
Optometry	116	2	1.72	.49
Dental Hygiene	77	1	1.30	.37
Dental Assistant	94	1	1.06	.30
Medical Records Admin.	98	1	1.02	.29
Rehabilitation Counseling	148	1	.68	.19
TOTAL HEALTH SAMPLE	32,271	1,169	3.62	1.03
COLLEGE FRESHMEN	11,122	390	3.51	.72***

Notes: Ratio = % ENTP in health field ÷ % ENTP in College Freshmen (or $\text{Frequency}_{obs} \div \text{Frequency}_{exp}$).

Ratios significantly over 1.00 indicate fields attractive to ENTP; ratios significantly less than 1.00 indicate fields avoided by ENTP.

* *p* <.05, ** *p* <.01 and *** *p* <.001.

Table 51
Attractiveness of Fields of Health to ENFJ

FIELDS OF HEALTH	NUMBER IN FIELD Total	ENFJ	% in Field who are ENFJ	RATIO
Health Administration	60	16	26.67	4.58***
Cardiovascular Technology	52	6	11.54	1.98
Counseling	766	88	11.49	1.97***
Speech Pathology	337	33	9.79	1.68**
Dietetics and Nutrition	524	50	9.54	1.64***
Rehabilitation Counseling	148	13	8.78	1.51
Psychology	1,132	98	8.66	1.49***
Clinical Psychology	153	13	8.50	1.46
Health Education	182	15	8.24	1.41
Physical Therapy	1,246	100	8.03	1.38**
Medicine	7,863	613	7.80	1.34***
Nursing: RN	9,507	729	7.67	1.32***
Social Work	309	23	7.44	1.28
Physician Extender	323	24	7.42	1.28
Occupational Therapy	841	61	7.25	1.24
Dental Assistant	94	6	6.38	1.10
Medical Communications	48	3	6.25	1.07
Pharmacy	2,712	154	5.68	.97
Radiologic Technology	267	15	5.62	.96
Laboratory Technologist	167	9	5.39	.92
Dental Hygiene	77	4	5.19	.89
Dentistry	1,098	57	5.19	.89
Medical Records Admin.	98	5	5.10	.88
Medical Technology	1,678	85	5.07	.87
Respiratory Therapy	480	24	5.00	.86
Nursing: LPN	183	8	4.37	.75
Optometry	116	5	4.31	.74
Physical Therapy Ass't	93	4	4.30	.74
Veterinary Medicine	142	6	4.23	.73
Medical Assistant	78	3	3.85	.66
TOTAL HEALTH SAMPLE	32,271	2,340	7.25	1.24***
COLLEGE FRESHMEN	11,122	648	5.83	1.62***

Notes: Ratio = % ENFJ in health field ÷ % ENFJ in College Freshmen (or $\text{Frequency}_{obs} \div \text{Frequency}_{exp}$).

Ratios significantly more than 1.00 indicate fields attractive to ENFJ; ratios significantly less than 1.00 indicate fields avoided by ENFJ.

* $p < .05$, ** $p < .01$ and *** $p < .001$.

Table 52
Attractiveness of Fields of Health to ENTJ

FIELDS OF HEALTH	NUMBER IN FIELD Total	ENTJ	% in Field who are ENTJ	RATIO
Cardiovascular Technology	52	9	17.31	5.41***
Health Administration	60	5	8.33	2.60*
Dentistry	1,098	74	6.74	2.11***
Physician Extender	323	21	6.50	2.03**
Medicine	7,863	508	6.46	2.02***
Dietetics and Nutrition	524	32	6.11	1.91***
Occupational Therapy	841	50	5.95	1.86***
Psychology	1,132	63	5.57	1.74***
Health Education	182	10	5.49	1.72
Medical Technology	1,678	89	5.30	1.66***
Clinical Psychology	153	8	5.23	1.63
Optometry	116	6	5.17	1.62
Veterinary Medicine	142	7	4.93	1.54
Pharmacy	2,712	129	4.76	1.49***
Speech Pathology	337	15	4.45	1.39
Medical Communications	48	2	4.17	1.30
Counseling	766	29	3.79	1.18
Respiratory Therapy	480	18	3.75	1.17
Medical Records Admin.	98	3	3.06	.96
Laboratory Technologist	167	5	2.99	.94
Nursing: RN	9,507	282	2.97	.93
Rehabilitation Counseling	148	4	2.70	.84
Physical Therapy	1,246	30	2.41	.75
Social Work	309	7	2.27	.71
Radiologic Technology	267	6	2.25	.70
Physical Therapy Ass't	93	2	2.15	.67
Dental Assistant	94	2	2.13	.66
Medical Assistant	78	1	1.28	.40
Dental Hygiene	77	0	.00	.00
Nursing: LPN	183	0	.00	.00
TOTAL HEALTH SAMPLE	32,271	1,479	4.58	1.43***
COLLEGE FRESHMEN	11,122	356	3.20	1.00

Notes: Ratio = % ENTJ in health field ÷ % ENTJ in College Freshmen (or $\text{Frequency}_{obs} \div \text{Frequency}_{exp}$).

Ratios significantly more than 1.00 indicate fields attractive to ENTJ; ratios significantly less than 1.00 indicate fields avoided by ENTJ.

* $p < .05$, ** $p < .01$ and *** $p < .001$.

If type preferences were not related to career choices, then each health field should have about the same proportion in each type as are found in college freshmen, the pool from which candidates are drawn. Ratios significantly greater than 1.00 indicates that in these samples there are more of the type in that health career than would be expected, based on their frequency in college. If the ratio is significantly less than 1.00, it indicates that there are significantly fewer than would be expected.

These tables are not designed for use by counselors at this stage. Earlier sections have commented on the limitations of the data in terms of sampling and representativeness. Some fields have more practitioners in our data and other fields have more students. Some fields are geographically limited. Most important of all, some samples are extremely small. As will be seen in the tables, there may be no representation of given types in some fields.

The purpose of the table is to enable the reader to compare the characteristics of the type with the attractiveness of specialties. In this basically descriptive study, it is important for readers to see if the data make sense in terms of their own experiences with the different health professions.

For theoretical and practical reasons, two other groupings of the health fields are presented. One ranks the fields of health for the four combinations of perception and judgment, ST, SF, NF and NT. Myers believes that these groupings are particularly important in career choices. The table with these groupings appears in Part VII of this monograph, the executive summary of the entire report, as Table 3.

A second table was prepared with four type groupings because they have occurred often in discussions of this report. These are the practical and organized -S-J types who are so frequent in many health fields; the practical and adaptable -S-P types who are underrepresented in most health fields; the insightful and organized -N-J types who have increased in medicine and who seem to appear whenever situations are highly competitive, and the adaptable and insightful -N-P types who are especially frequent in fields requiring psychological understanding. Table 53 ranks the types in terms of these relationships.

We believe the best use of the MBTI for some time will be in helping those within a profession understand themselves in relation to typical colleagues, and use this understanding in making better choices of specialty and work setting. A second use will be increasing the efficiency of training each type.

The tables also make it clear that the data are far from solid enough to be used in selection. While most fields attract some types more than others, large samples of any field show all 16 types. Even more important, as will be discussed in later sections of this report, there are no compelling data or studies at this point to prove that rare types in a field are less satisfied or less competent.

Table 53

Attractiveness of Health Fields for MBTI Groupings SJ, SP, NP and NJ in Comparison to College Freshmen

S J - SENSING PLUS JUDGMENT			S P - SENSING PLUS PERCEPTION			N P - INTUITION PLUS PERCEPTION			N J - INTUITION PLUS JUDGMENT		
PRACTICAL AND SYSTEMATIC			*REALISTIC AND OBSERVANT*			*INSIGHTFUL AND UNDERSTANDING*			*INNOVATIVE AND DECISIVE*		
FIELDS OF HEALTH	N	RATIO	FIELDS OF HEALTH	N	RATIO	FIELDS OF HEALTH	N	RATIO	FIELDS OF HEALTH	N	RATIO
Nursing: LPN	102	1.51***	Physical Therapy Ass't	26	1.49*	Clinical Psychology	82	1.88***	Cardiovascular Technol.	21	2.55***
Medical Records Admin.	52	1.44***	Dental Assistant	22	1.25	Psychology	581	1.80***	Health Administration	23	2.42***
Dental Hygiene	40	1.41**	Medical Assistant	18	1.23	Social Work	137	1.56***	Clinical Psychology	53	2.19***
Physician Extender	158	1.33***	Radiologic Technology	60	1.20	Rehabilitation Counsel.	65	1.54***	Medicine	2254	1.81***
Dentistry	520	1.28***	Respiratory Therapy	97	1.08	Medical Communications	18	1.47	Psychology	294	1.64***
Medical Technology	777	1.25***	Physical Therapy	229	.98	Counseling	298	1.37***	Optometry	29	1.58**
Dietetics & Nutrition	242	1.25***	Dental Hygiene	14	.97	Occupational Therapy	325	1.36***	Counseling	186	1.53***
Health Education	81	1.21*	Laboratory Technology	30	.96	Speech Pathology	119	1.24**	Health Education	41	1.42*
Dental Assistant	41	1.18	Nursing: LPN	32	.93	Veterinary Medicine	49	1.21	Dietetics & Nutrition	118	1.42***
Nursing: RN	4127	1.18***	Medical Records Admin.	17	.93	Medicine	2386	1.07**	Dentistry	237	1.36***
Laboratory Technology	67	1.09	Speech Pathology	55	.87	Radiologic Technology	74	.97	Speech Pathology	72	1.35**
Pharmacy	1080	1.08**	Medical Communications	7	.87	Medical Assistant	21	.95	Physician Extender	68	1.33*
Optometry	46	1.07	Pharmacy	425	.84***	Respiratory Therapy	127	.93	Medical Communications	9	1.32
Respiratory Therapy	183	1.03	Cardiovascular Technol.	8	.82	Physical Therapy	324	.91	Occupational Therapy	176	1.32***
Radiologic Technology	101	1.02	Nursing: RN	1418	.80***	Laboratory Technology	43	.90	Social Work	63	1.29*
Physical Therapy	470	1.02	Rehabilitation Counsel.	21	.76	Physical Therapy Ass't	23	.87	Pharmacy	538	1.25***
Veterinary Medicine	50	.95	Medical Technology	238	.76***	Pharmacy	669	.87***	Medical Technology	331	1.24***
Physical Therapt Ass't	32	.93	Optometry	16	.74	Nursing: RN	2265	.84***	Veterinary Medicine	26	1.16
Medical Assistant	26	.90	Social Work	42	.73*	Health Administration	13	.76	Physical Therapy	223	1.13
Health Administration	19	.86	Health Education	23	.67*	Physician Extender	70	.76**	Nursing: RN	1697	1.13***
Medicine	2469	.85***	Dietetics & Nutrition	66	.67***	Optometry	25	.76	Rehabilitation Counsel.	26	1.11
Occupational Therapy	243	.78***	Veterinary Medicine	17	.64*	Dental Assistant	20	.75	Medical Assistant	13	1.05
Cardiovascular Technol.	15	.78	Occupational Therapy	97	.62***	Health Education	37	.71*	Laboratory Technology	27	1.02
Speech Pathology	91	.73***	Dentistry	119	.58***	Dentistry	222	.71***	Medical Records Admin.	15	.97
Counseling	203	.72***	Counseling	79	.55***	Medical Technology	332	.69***	Respiratory Therapy	73	.96
Rehabilitation Counsel.	36	.66**	Medicine	754	.51***	Nursing: LPN	36	.69**	Physical Therapy Ass't	12	.81
Social Work	67	.59***	Psychology	100	.47***	Dental Hygiene	15	.68	Radiologic Technology	32	.76
Medical Communications	9	.57*	Physician Extender	27	.45***	Dietetics & Nutrition	98	.66***	Dental Assistant	11	.74
Psychology	157	.38***	Health Administration	5	.44*	Cardiovascular Technol.	8	.54*	Dental Hygiene	8	.66
Clinical Psychology	10	.18***	Clinical Psychology	8	.28***	Medical Records Admin.	14	.50**	Nursing: LPN	13	.45**
ALL HEALTH FIELDS	12243	1.03	ALL HEALTH FIELDS	4336	.72***	ALL HEALTH FIELDS	8836	.96*	ALL HEALTH FIELDS	6856	1.34***
COLLEGE FRESHMEN	4106	1.00	COLLEGE FRESHMEN	2085	1.00	COLLEGE FRESHMEN	3168	1.00	COLLEGE FRESHMEN	1763	1.00

Notes: Ratio = % in MBTI grouping ÷ comparable % in College Freshmen (or Frequency$_{obs}$ ÷ Frequency$_{exp}$).

Ratios significantly greater than 1.00 indicate health fields more attractive to those in type grouping. Ratios significantly lower than 1.00 indicate fields less attractive. Ranking for fields with small samples are less likely to remain stable.

* *p* <.05, ** *p* <.01 and *** *p* <.001. Variations in levels occur because larger differences are required for significance in smaller samples.

F. Retention: Comparison of Students and Practitioners

In the previous sections, we have used student samples to represent health fields because these are the samples health educators deal with. We have also used composite samples of students and practitioners, to give larger and more stable base populations for analyses.

However, students and practitioners may not be identical in distribution. Some fields may be training substantial numbers of people who do not remain in in practice, and there may be type differences in who stays and who leaves.

Fields change, and selection policies change. As with medicine, the types being selected today may be in quite different proportions from types who were admitted in the past.

Since it is important for health programs to select those candidates most likely to be successful and to remain in practice, it would be useful to be able to identify cases where programs were investing energy in types unlikely to use the skills for which they were trained.

No carefully controlled studies exist comparing students and practitioners. As a first approximation of trends, the students and practitioners in the professions with large numbers of both are compared in this section. If students are staying in the field in the same proportions for each type, then student and practitioners samples should be very similar. If some types are more likely to remain in practice, then there should be significant differences in the student and practitioner samples.

Two types which frequently enter health careers are of particular interest. These are the introverted sensing types, ISTJ and ISFJ. In the type description, Myers says of them "They do not enter into things impulsively, but once in, they are very hard to distract, discourage or stop. They do not quit unless experience convinces them they are wrong." (Myers, 1976, p. 14). If Myers is correct about these types, it may be particularly important for them to receive good career counseling, as they may remain in inappropriate fields longer than other types.

1. Retention in Medicine

There are no appropriate data for this analysis at present. We do know that, compared to the 1950's sample collected by Myers, today's students have proportionately more introverts, intuitives, feeling types and judging types. We also know from Myers' work and the second follow-up of those physicians today, that there are significant type differences in specialty choice. Therefore, a comparison of today's students and today's practitioners would require a practitioner sample representative of specialties and work settings. Our sample of 1881 practitioners is the product of research interests of a number of investigators. The comparison of these unrepresentative practitioners shows more introverts, sensing, thinking and judging types than the students, and more ISTJ's and ISFJ's; there are fewer EN-P types who need constant challenge.

2. Retention in Nursing

When baccalaureate nurses (N 330) are compared with baccalaureate nursing students (N 2074), the practicing nurses have significantly more S, T, I--J, IS--, ISTJ, ISTP and INTP types.

When nurses with graduate degrees are compared with nursing students in graduate programs, there are no significant differences.

When nurses at all levels (N 2635) are compared with students at all levels (N 7625), the practicing nurses have significantly more I, N, T, I--J, I--P, IN--, IS--, -ST-, -NT-, --TJ, --TP, ISTJ, ISFJ, ISTP, INTP, INTJ and ENTJ types.

Introverts, thinking types, judging types, and their combinations appear to be more likely to remain in nursing.

3. Retention in Dietetics

When 309 dietitians are compared to 215 students in dietetics and nutritional services, the practitioners have significantly more I, T, I--J, -ST-, --TJ, IS--, ISTJ, ESTJ and ENTJ types. Dietitians who are tough-minded, executive, thoughtful and analytic tend to remain in their field.

4. Retention in Medical Technology

When 973 medical technologists are compared to 705 medical technology students, the practitioners have significantly more I, I--J, -ST- and ISTJ types. The organized introverts and the practical and matter-of-fact types seem to remain in medical technology.

5. Retention in Occupational Therapy

When 157 occupational therapists are compared with 684 occupational therapy students, the practitioners are significantly more I, T, I--J, -ST-, -NT-, --TJ, --TP, ISTJ and INTJ. Introverts and analytic types who are decisive and practical tend to remain in occupational therapy. The insightful NF types who account for 48% of students are only 32% of practitioners.

6. Retention in Physical Therapy

There are only 155 physical therapists in the sample to compare with 998 physical therapy students. These [illegible] practitioners are significantly more I, I--P, IS-- and ISFJ. The thoughtful realists and adaptable introverts tend to remain in physical therapy.

7. Retention in Psychological and Counseling Services

Analysis is difficult in this category because the CAPT coding system yielded many imprecise classifications. When all 2453 practitioners are compared to 1247 students, practitioners are more E, S, J, E--J, -ST-, -S-J, --TJ, ES--, ISTJ and ESTJ. If confirmed in a controlled sample, the atypical types in these fields are retained longer than the more typical people.

8. Retention in Radiologic Technology

When the small sample of 53 radiologic technologists is compared with the 214 students of radiologic technology, the practitioners have significantly more ISFJ and ESTP types. No interpretable trends appear in these very preliminary data.

9. Retention in Respiratory Therapy

When the small sample of 127 respiratory therapists is compared to the sample of 353 respiratory therapy students, the practitioners have significantly more T, P, I--P, --TP, IN--, and INTP. If confirmed with planned studies, respiratory therapy appears to retain people with a long attention span who enjoy the technical and analytical side of health and enjoy settings where adaptability is required.

10. Retention in Social Work

When 169 social workers at different educational levels are compared to 140 who call themselves social work students, the practitioners have significantly more of the insightful and organized INFJ types.

11. Retention in Speech Pathology

When 122 speech pathologists are compared to 215 students, the practitioners have significantly more T, -NT- and ENTP. The atypical thinking types in this field appear to have a higher retention rate.

To sum up these very preliminary findings on fields for whom we found populations of both students and practitioners, there appears to be an overall tendency for introverts, sensing types, and the analytical thinking types to have higher retention rates. In many fields ISTJ, ISFJ or both are found in greater numbers among practitioners than among students.

If future research confirms these preliminary findings that extraverts, intuitives and feeling types are somewhat more likely to leave the health fields for which they are trained, then one can speculate from the theory about possible reasons. The combination of extraversion and feeling characterizes a group of people who are very sensitive to environmental factors and whose work is most likely to suffer in settings with lack of appreciation and lack of harmony. Understaffed settings where good work is taken for granted and mistakes roundly criticized would stress E-F types. Settings with rigid structure and little scope for independent action would stress EN-- types. Careful studies of turnover in health fields including type differences in reasons for leaving settings should produce valuable information for improving health delivery systems.

PART III

TRAINING THE HEALTH PROFESSIONAL

This section of the monograph is concerned with type differences in educating and training people to enter the health care delivery system, at all levels from the high school graduate working as an aide to the post-graduate professional in continuing education.

Our overburdened educational system at all levels is trying to solve overload problems by improving ways to individualize instruction. Many faculty in high school and college find Jung's theory a valuable tool in conceptualizing how individualization can be accomplished. There is enough complexity to allow for individual differences, but the structure is simple enough to allow practical groupings of students for specific purposes.

In the past decade, research has begun on type differences in aptitude and achievement, in learning styles, in student-teacher matching, and in assessment of learning. Studies are also beginning on the teaching process, investigating type differences in motivations, skills, and teaching styles of faculty. This research is beginning, but potentially important, since it is already apparent that every classroom has students who would learn more efficiently with teaching approaches which do not come naturally to the type of teacher instructing them.

No good state-of-the-art papers on MBTI research in teaching and learning were found in the MBTI Bibliography. This section is written with the focus on health professions, plus comments from the experience of CAPT in discussing educational issues over the past years with large numbers of educators from middle school through professional school.

A. Theoretical Expectations for Type Differences in Attitudes, Aptitude, Achievement and Learning Style

III TRAINING

In the MBTI *Manual*, Myers (1962) discussed the scholastic performance of the types, noting that "type classifications appear to be related to three quite distinct factors which contribute to scholastic success: aptitude, application and interest. In scholastic prediction, only aptitude is directly measurable. Where it appears insufficient to account for high school achievement, the presence of some other favorable factor may be reliably inferred. In many cases, this other factor is better-than-average application, or better-than-average scholastic interest. Application produces one kind of good student, scholastic interest another. From the record of high school grades, it is difficult, if not impossible, to tell which is which, but knowledge of the student's type may make possible a more educated guess as to the application and interest he will bring to his studies, as well as a more accurate use of his aptitude scores (p. 35).

1. Academic Aptitude

Academic aptitude is typically measured by written tests covering tasks such as paragraph comprehension, mathematics, and an overview of knowledge in the humanities, social and physical sciences.

Aptitude tests favor the types who have an interest in symbols, theory and abstraction (intuition) and concepts and ideas (introversion). This is appropriate, since much of academic work is indeed concerned with the meanings and relationships of complex ideas. Of the two preferences particularly related to academic aptitude, introversion and intuition, the latter is the more important. Myers' findings of differences in favor of intuitive types in college on the Scholastic Aptitude Test have been found by others at different levels: 8th grade (Stanford Achievement Test, May 1971); 7th and 8th grade (Metropolitan Achievement Test, Spencer & McCaulley, unpublished); 7-12th grade (McCaulley & Natter, 1974); high school seniors (Damico & Dalsheimer, 1974); university students (Conary, 1965 and McCaulley, 1973) and medical students (Myers, 1964, McCaulley, 1974, Rezler, 1974, Camiscioni, 1974, Otis, 1972, Hain, unpublished).

In making predictions of academic aptitude as measured by written tests, the convention is to predict IN highest, followed by EN, IS and ES. It is important to note that the prediction in no way implies that ES types cannot and do not have high academic aptitude. The University of Florida students within the ES quadrant who ranked 13, 14, 15 and 16th among their classmates on the statewide Florida Twelfth Grade Test still scored in the top quarter of students in the entire state.

On tests where the actual performance of a task is measured, as tests which are measures of clinical performance in health fields, it is predicted that the advantage of intuitive types on written tests will disappear. A performance test measures sensing types on their own ground, the actual deed rather than the words and symbols about the deed.

Our general prediction, then, is that the IN-EN-IS-ES rankings will hold for aptitude tests and the academic measures of the health science courses, but that there will be little difference among the types by the time clinical performance is evaluated.

2. Motivation

Motivation in type theory stems from the preferences of each type for using their powers of perception and judgment. Tasks calling for use of preferred functions are more interesting, hence more motivating, than tasks calling for less-preferred functions.

To motivate students who prefer S, the practical utility of the knowledge can be emphasized. To motivate students who prefer N, the possibilities and implications can be suggested. To motivate students who prefer T, the inherent logical order of the material, and the logical consequences of mastering or failing to master it can be described; and for students preferring F, the human side of the material, and how it can be helpful to people, can be shown. Introverts are expected to be more interested in abstracting the ideas from what is presented, while extraverts are more interested in putting the concepts into action. Most subjects can be presented from a viewpoint to motivate all types.

In many health professions, training begins with concepts and theory, and then moves to practical application. This method of teaching fits the motivations of IN types, but is contrary to that of ES types, who would find the theory more palatable after they had experiences to show that a better grasp of concepts and ideas would be of some practical use.

3. Academic Achievement

To the extent that achievement is measured in written tests, as noted above, the intuitive types, and especially the IN types, have an advantage.

Myers produced evidence (shown in Monograph II) and others have confirmed it, that judging types appear to have a slight advantage over perceptive types in academic achievement. Their grades are likely to be a little higher than one would predict, given their aptitude scores. In theory, J types should plan their work, meet deadlines, and be willing to study material out of duty even if not particularly interested. To the extent that these behaviors occur, J types will be more frequent in samples of "overachievers."

Health professions students have many requirements for science courses. Science requires much use of thinking, and the physical sciences require an ability to work conceptually and with theory. The INT- types then are expected to have a special interest in science. Their opposites, the ESF- types, are therefore predicted to have to work particularly hard to meet science requirements which call on their less preferred functions. Many faculty in the health professions have great familiarity with students who are excellent with patients, but have great difficulty with the academic part of the curriculum.

Myers observed—and her data bear her out—that NT types are more naturally interested in the sciences, but that feeling types can be good at science if it will help them achieve some deeply valued goal.

4. Learning Style

Research on learning styles of MBTI types is just beginning, and no "state-of-the-art" paper has yet been written. Myers has suggested the following type differences can be expected:

Extraverts will profit from action and experience before major concepts are presented, while introverts will find it easier to acquire experience if they have a clear conceptual framework beforehand.

Sensing types will learn best if learning is experiential, tied to what is already known, and proceeds in linear fashion from the familiar to the new. Intuitive types learn inductively, with sudden leaps to understanding, and may then need to retrace their steps to verify and expand their insights.

Thinking types learn best in an abstract, analytical and objective framework, while feeling types learn best when problems are personalized.

A number of faculty at the University of Florida have used the MBTI in the classroom for over 5 years. The following observations are reported to give the reader a sense of the uses of the theory in understanding students, and to suggest hypotheses for more rigorous research.

Extraverts in a reading laboratory wanted to work in small groups, while introverts preferred to use the study carrels alone. Sensing types in a mechanical engineering course preferred the programmed instructions. Judging types finished the same course on time, while perceptive types were more likely to take incompletes. The independent-minded NP types were more likely to sign up for unusual courses, such as Alternative States of Consciousness, Religion as Seen Through the Arts, or Protest and Dissent. Intuitive types read faster, and reported reading more and enjoying reading. (This fact has been confirmed in other studies.) In a recent dissertation by Golanty-Koel (1977), of public school students, intuitive types reported that they read more books and were more likely to identify with characters in books, while sensing types were more likely to identify with characters on television. An original hypothesis that sensing types would prefer programmed learning appears to need revision—many do like the step-by-step approach and quick knowledge of results, but some intuitive types have liked it because they can complete the work quickly without waiting for the rest of the class. In a study by Grant of Auburn freshmen, sensing types were likely to prefer objective examinations and intuitive types, essay. Intuitives reported feeling academically superior to other students. The enthusiastic NF types and the pragmatic ES types liked enthusiasm in their teachers, while some of the thinking types thought it was more important that material be presented clearly. The science-minded NT types were the only group consistently reporting that faculty took an interest in their personal welfare. The practical and spontaneous types were more lilely to be planning to complete their education at the bachelor's level, while the science-minded NT's were planning on graduate study (the extraverts for a master's and the introverts for a doctorate). The extraverts' leisure time was spent with more social activities and the extraverts with feeling were the only types dating more than once a week. The communication-oriented NF types spent more time at movies, and the scholarly INT types spent more time at lectures, plays or concerts. Students with intuition dominant were more likely to use the infirmary, possibly because they were so caught up in the enthusiasm of the moment that they forgot to eat and sleep (a problem for these types also mentioned by con Franz (1971) who commented that extraverted intuitives may need a breakdown to make themselves notice their bodies.)

These observations indicate that a very wide range of type differences have been observed in students. These differences are consistent enough with the theory to suggest that a more rigorous look at type differences in learning styles will provide valuable information to students and their teachers.

5. Clinical Performance

The selection, training and evaluation of practitioners in all fields of health require a consideration of factors beyond the academic ones such as aptitude, scientific knowledge or technical skills. These additional factors which combine in "clinical competence" or "professional performance" are generally seen as very important and very hard to assess. Typically, health fields value qualities such as sense of responsibility, compassion, commitment to the patient, ability to communicate with patients, ability to work well with colleagues, maintenance of high ethical standards, integrity, a cool head in emergencies, continuing interest in learning more about one's field, and stamina to keep going under demanding schedules.

a. Academic Achievement and Clinical Performance

Most health fields establish minimum academic credentials for admission, supplemented by some assessment of personal qualities considered relevant to future clinical performance. The academic qualifications, such as aptitude scores, serve two major purposes. They give an estimate of the aptitudes and abilities of the candidate to master the course of training, and the show whether the candidate has the knowledge which the faculty will assume to be present prior to professional training. The academic evaluation, then, defines abilities which are necessary but not sufficient for health professionals.

It seems often to be forgotten that the academic baseline is designed to insure the success of training, not to forecast the other components of professional performance. Given the fact that correlations tend to be lower in homogeneous populations, it is not surprising that original academic scores have relatively low predictive ability even to the academic grades and tests of professional training. Students are more homogeneous than applicants. In most settings, some applicants of very high ability will have chosen more prestigious schools, and applicants of very low ability will have been rejected.

b. Components of Clinical Performance and Psychological Types

From the viewpoint of type theory, the most productive way of looking at professional competence is by examining the components separately. No careful classification has been made, to our knowledge, of all the components of clinical performance in light of type theory. We think the following statements can serve as a beginning.

(1) All MBTI types can achieve high levels of professional performance.

(2) Each health field, and each specialty or work setting within health fields, has a characteristic pattern of the components of professional performance. In each pattern, certain components which occur frequently and/or are of great importance will require very high levels of competence. Other components which occur rarely and/or are of lesser importance can be accomplished with adequate levels of performance, or less. For example, the patterns for surgeons and psychiatrists would differ in the importance of the technical skill components and the interpersonal communication components.

(3) Many of the components of professional performance cut across health fields, and interdisciplinary research could increase understanding of these commonalities.

(4) MBTI types will differ in their achievement of professional skills before entering training. (For example, extraverts with feeling will probably have better communications skills than introverts with thinking.)

(5) MBTI types will differ in their motivation for learning specific components, in their readiness, and in their most efficient learning mode.

(6) When faculty and governing boards evaluate clinical performance, the qualities deemed important and the ways these are evaluated are likely to be affected by the types of those doing the ratings.

(7) Types will differ in their best ways of demonstrating competence. In particular, sensing types are most likely to demonstrate their competence in actually performing the tasks. Intuitive types will be more likely to present themselves well in writing.

(8) Given the fact that intuitive types, especially the INT types, are attracted both to research and to teaching, current efforts at evaluation may have the bias of these types. Care must be taken to make sure the ESF components--skill in action, practical and necessary routines, and sympathy and concern, are evaluated.

In assembling data for this report, we did not expect to find definitive findings of type differences in clinical performance. We did hope to identify data that might point to productive next steps.

6. Career Planning and Specialty Choice

Throughout this Monograph the issues of type differences in specialty choice have been discussed, and these need not be repeated here. The data on selection have been concerned with evidence that health fields attract those types who, in theory, should have most interest and skill in the tasks to be accomplished.

In considering the training of health professionals, we were interested in any evidence that types differ in the ways they choose careers in the beginning, and in their patterns of specialty choices during the course of their training experiences. Do students move away from some fields and toward others, in any type-related ways?

In summary, this part of the project was concerned with a broad look at all aspects of the education of health professionals, in an attempt to see whether type theory could explain or predict events. We hoped to find recurrent patterns that cut across health careers. If the same types behave the same ways in different fields of health, the practical use of knowledge in any field will be greatly increased.

Given the data from Part II of this report, it is clear that all MBTI types can graduate from programs in all health fields and can practice as professionals. In Part III we are concerned with understanding the learning experiences and educational settings which will help each type achieve a professional education with efficiency and pleasure.

B. Aptitude and Achievement in Academic Coursework

This section is concerned with aptitude for training in fields of health, and achievement in those courses which are taught in the preclinical years or which are evaluated through standardized written tests.

1. Myers' Research on Aptitude and Achievement in Medicine

As part of her longitudinal study, Myers collected Medical College Admissions Test (MCAT) scores on 4324 students. She predicted and found the expected relationships between MBTI types and MCAT scores, with rankings of the quadrants IN > EN > IS > ES. The relationships of the mean scores were:

	Verbal	Quantitative	Modern Society	Science
IN	568	549	552	564
EN	535	527	526	536
IS	498	519	493	520
ES	477	496	476	493

(The full tables appear in Monograph II.)

a. Comparison of Aptitude (MCAT) and Achievement (Class Standings)

In order to compare aptitude with achievement, Myers standardized both MCAT scores and grades. Schools with higher mean MCAT scores had more introverts and intuitives than schools with lower mean MCAT scores. Myers assumed that faculty grading standards might be influenced by the aptitude level of students and the distribution of types. In order to compare types across schools, she made a further standardization by setting each school mean at 50 and adjusted the students' scores to keep them in the same position relative to their classmates. (Details of these analyses appear in Monograph II.)

As would be expected, Myers found more homogeneity in final grades than in initial MCAT scores. The difference in grades was statistically significant, but the practical difference was minimal (IN 52.04 > EN 51.28 > ES 50.68 > IS 49.88; F 12.88, df 3,4826, p <.001). The types that entered with an advantage on the MCAT tended to maintain their advantage. However, the eight judging types and the practical ES types were most likely to have higher final grades than would be expected from their MCAT scores on entry.

b. Comparison of Academic Grades and Clinical Grades

In a separate analysis of 952 students from 16 classes of 5 schools, Myers compared academic averages from years 1 and 2 with clinical grades from years 3 and 4. She found significant differences in the expected direction for years 1 and 2, but not for years 3 and 4.

Myers drew two main conclusions from her findings. First, the lower MCAT scores of sensing types should not keep them out of medical school, since sensing types did not have a higher failure rate and were, in fact, more likely to overachieve. Second, Myers raises the interesting possibility that sensing types who are admitted to medical school may have attained higher levels of maturity and steadfastness than their intuitive classmates. Her reasoning is that the facility with words of the intuitive types makes it easier for them to achieve high test scores without the persistence needed by sensing types to do as well. Myers' observationes may no longer be true, given the extreme competition facing all of today's applicants, but the possibility of consistent type differences in maturity of medical students is an intriguing idea worth more study.

2. MCAT Scores of Medical Students

Type differences in MCAT scores are still found in current medical school samples. Table 54 shows the mean scores ranked by quadrants, and the EI and SN differences for Myers' data compared to two applicant samples and three student samples. Differences are greater in applicants, who are a more heterogeneous population than students. Differences are in the predicted directions, but not all are statistically significant. The greatest consistency is in high scores of IN types and lower scores of ES types: there are many reversals of EN and IS groups in the comparisons.

No data were reported giving comparisons of the types in the new medical college admissions instruments.

3. National Board of Medical Examiners Scores of Medical Students

Analysis of type differences in NBME scores is less straightfoward than at first appears. In some schools students take Boards when they feel ready; in others, on a fixed schedule. Students may, or may not, be required to pass Boards in order to graduate.

With the increasing number of medical schools administering the MBTI, an actual or potential large body of data relating NBME and MBTI scores must exist. Two schools provided data for this project; scores of New Mexico students were reported by Gerald Otis, and of Ohio State students by the late John Camiscioni.

Since introverts and intuitives have an edge in the MCAT, these types were expected to average higher also on National Boards. Table 55 shows the differences in mean scores for the four MBTI preferences and the rankings of the quadrants for each of the Boards. Very few significant differences were found; in these non-significant comparisons, I's and N's typically outscored E's and S's. No such consistency appears for TF and JP. In fact, T's and P's averaged higher in New Mexico, and F's and J's at Ohio State. The rankings of the quadrants showed the expected advantage of IN types and lower scores of ES types, with many shifts in 2nd and 3rd place. The most important finding is that there is less difference in types on Boards than on the MCAT. All types pass Boards.

Table 54
Relative Advantage of Introverts and Intuitive Types on MCAT Scales

MEDICAL SCHOOL		N	MCAT SCALES			
			V	Q	GI	SCI
			Rankings of the Quadrants			
Myers Longitudinal Study- 1950's						
Isabel Briggs Myers	IN	1217	568	549	553	564
	EN	1113	535	527	526	536
	IS	904	498	519	493	520
	ES	1090	477	496	476	493
		4324	*F* 237.00 *p* .001	*F* 65.41 *p* .001	*F* 92.47 *p* .001	*F* 131.89 *p* .001
University of Florida Applicants-Class of 1976						
M. H. McCaulley	IN	90	563	629	568	563
	EN	119	535	602	534	551
	IS	51	509	560	524	519
	ES	67	484	538	488	496
		327	*F* 9.47 *p* .001	*F* 13.53 *p* .001	*F* 13.30 *p* .001	*F* 8.09 *p* .001
Applicants-Class of 1977						
M. H. McCaulley	IN	83	565	633	567	600
	EN	75	537	604	550	576
	IS	36	540	559	547	554
	ES	46	474	572	497	528
		240	*F* 9.13 *p* .001	*F* 5.56 *p* .005	*F* 6.58 *p* .001	*F* 7.00 *p* .001
University of Illinois Freshmen tested 1973	IN	95	562	619	609	573
A. G. Rezler	EN	90	540	617	614	553
	IS	40	545	610	599	559
	ES	49	518	580	573	538
		274	*Significance computed only for main preferences*			
University of New Mexico						
G. D. Otis	IN	139	578	595	570	579
	EN	137	554	591	558	560
	IS	73	550	597	559	565
	ES	57	547	594	534	556
		406	2.95 .05	0.12 *ns*	2.99 .05	2.09 *ns*
Ohio State University						
J. S. Camiscioni	IN	266	570	625	584	592
	EN	260	551	614	569	575
	IS	181	551	626	560	580
	ES	157	522	592	541	559
		864	*Significance computed only for total table*			
			Difference Between Mean Score for Introverts and Mean Score for Extraverts			
Myers Longitudinal Study		4324	32***	24***	27***	31***
University of Florida						
Applicants-Class of 1976		327	27*	25*	34***	16*ns*
Applicants-Class of 1977		240	44*na*	18*na*	31*na*	28*na*
University of Illinois		274	24**	10*ns*	7*ns*	21*
University of New Mexico		406	16*ns*	4*ns*	15*ns*	14*ns*
Ohio State University		864	22*na*	10*na*	15*na*	18*na*
			Difference Between Mean Score for Intuitive Types and Mean Score for Sensing Types			
Myers Longitudinal Study		4324	66***	32***	56***	45***
University of Florida						
Applicants-Class of 1976		327	52***	66***	45***	50***
Applicants-Class of 1977		240	49*na*	53*na*	41*na*	49*na*
University of Illinois		274	21*	20*ns*	26*	15*ns*
University of New Mexico		406	17*ns*	0*ns*	16*	10*ns*
Ohio State University		864	22*na*	20*na*	25*na*	14*na*

Notes: Data prepared at different times using different methods of analysis. Data marked *ns* if tested and not significant, *na* if significance test not available.

Table 55
Differences in National Board Scores for MBTI Preferences

National Board	Differences in Mean Scores and MBTI Preference with Higher Score				Rankings of Quadrants
NBME	E I	S N	T F	J P	1 > 2 > 3 > 4
New Mexico					
Anatomy	0 -	2 N	2 T	7 P*	IN EN ES IS
Physiology	6 I	6 N	0 -	9 P*	IN EN=ES IS*
Biochemistry	0 -	3 N	2 T	4 P	IN=ES EN IS
Pathology	0 -	1 N	2 T	2 P	ES IN EN IS
Microbiology	5 I	0 -	2 T	2 P	IN=IS EN ES
Pharmacology	3 I	1 N	5 T	6 P	IN ES EN=IS
Medicine	3 I	2 N	6 T	2 P	IN EN=IS ES
Surgery	3 I	7 N	2 T	4 P	IN EN IS ES
Obstetrics-Gynecology	4 I	3 N	3 T	7 P*	IN IS EN ES
Preventive Medicine	5 I	7 N	2 T	4 P	IN EN IS ES
Pediatrics	4 I	5 N	4 T	6 P	IN EN IS ES
Psychiatry	12 I*	10 N*	1 T	7 P*	IN IS EN ES*
Ohio State					
Physiology-Year 1	21 I	8 N	9 T	1 J	IS IN EN ES
Physiology-Year 2	24 I	16 N	4 F	1 J	IN IS EN ES
Anatomy-Year 1	20 I	4 S	8 F	5 J	IS IN EN ES
Anatomy-Year 2	19 I	15 N	19 F	10 P	IN IS EN ES
Biochemistry-Year 1	25 I	20 N	5 F	5 P	IN IS EN ES
Biochemistry-Year 2	18 I	22 N	6 F	8 P	IN EN IS ES
Pathology-Year 2	25 I	22 N	12 F	1 J	IN IS EN ES
Pharmacology-Year 2	9 I	9 N	8 T	10 J	IN EN=IS ES
Microbiology-Year 2	11 I	21 N	7 F	6 J	IN EN ES IS

Notes: New Mexico sample includes from 306-312 students for basic sciences and 261 for specialties. Ohio State data based on 423 students.

In each column, the numbers refer to difference between mean scores of E and I, of S and N, of T and F, and of J and P. The letters denote the preference with the higher score.

Quadrant rankings are 1 > 2 > 3 > 4 unless denoted as equal.

* $p < .05$. No significance data available from Ohio State sample.

4. Other Academic Measures of Medical Students

In addition to data on type differences in MCAT scores of Illinois students, Rezler looked for type differences on a basic science multiple choice achievement test. No significant differences were found.

Data on type differences in academic achievement in medical school show, of course, that all 16 types can achieve passing grades and graduate. Some preliminary analyses of data at hand suggest that patterns predicting success are not randomly distributed among types. In the New Mexico studies, Otis (1972) used a cluster analysis procedure to group the MBTI types into object types based on their natural groupings in his data. Otis found characteristic patterns of MCAT scores, grades, National Board Scores, and a wide range of attitudes toward life in medical school; one of the mediating variables explaining differences among students of the same MBTI types was level of anxiety.

5. Myers' Study of the Relation of Psychological Type to Dropout in Medicine

In the Myers sample of 5355 medical students, 226 or 4.22% failed to graduate. The active and organized E--J types had a significantly higher dropout rate of 5.64%. These types, if they graduate, are likely also to achieve better than predicted. Myers comments that the E--J group pose a particular challenge in medical selection. The data on dropout in the Myers research appear in Monograph II.

6. Myers' Study of the Relation of Psychological Type to Dropout in Nursing

In August of 1967 Myers made a preliminary report to the nursing schools who participated in her longitudinal study of diploma nursing students. The report included an analysis of 3403 students in her sample of over 10,000. At the time of this progress report (the only report made of this study which has still not been completely analyzed), Myers had dropout data on the first 20 months of training of the class of 1967.

Table 56 shows her comparison of intelligence as tested in high school, interest in nursing, as shown in the ratio of the percent of each type in nursing schools compared to their frequency in high school females, and the dropout rate. The dropout rate for the nursing sample was 29%.

The --FJ types had the greatest interest in nursing, and were least likely to drop out. Myers noted the surprising finding that the sensing types in this group, who had lower ability scores, were less likely to drop out than the intuitive types (NFJ) whose high school intelligence scores were higher. She suggested that the SFJ types may have a specific aptitude for nursing that compensates for their disadvantages in scholastic aptitude. Schools that raise cutting scores for admissions are likely to exclude some of the SFJ's with their special vocation for nursing.

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The highest dropout rates occurred in the perceptive types, with the rate for intuitive perceptives (-N-P types) at 32% and for the sensing perceptives (-S-P types) at 35%. Myers comments that the -S-P students may have had neither the intuitives' advantage in aptitude nor the judging types' advantage in application.

In her report, Myers suggested that schools collect and analyze data on their own students to develop performance norms for each type in connection with other relevant variables, such as attitudes, programs or teaching methods. She predicted that schools with a very high pace of teaching might have more dropouts among sensing types, especially ESFJ's, than schools with a slower pace and more experiential teaching.

Table 56
Initial Aptitude, Interest in Nursing, and Dropout from Diploma Nursing Programs of Myers Longitudinal Sample

Type	Total Students	Mean IQ in High School	Index of Interest	Dropout Rate
ISFJ	463	111	1.84	22%
ESFJ	816	109	1.33	26%
ENFJ	311	117	1.48	29%
INFJ	164	118	1.61	31%
ISTJ	158	116	1.22	29%
ESTJ	104	110	.86	27%
ENTJ	106	115	.82	26%
Other N-types	778	117-121	.91 - .39	32%
-S-P types	503	109-114	.86 - .45	35%

Myers noted that ISFJ and ESFJ are plentiful types in the population as well as in nursing where they accounted for 38% of her class of 1967. These two types are the most frequent in the CAPT data on nurses, and alone account for 31% of the students and 27% of the practitioners. The comparison of practitioners with students suggests that ISFJ may be more likely to remain in nursing than ESFJ.

7. Type Differences in Nursing State Board Scores

Williams (1975) studied type differences in Nursing State Board Examinations for 135 associate degree and 177 baccalaureate degree nurses in Florida. The state boards are designed to measure minimum levels of competence, not maximum possible performance. The distribution of types in the two populations was similar, except that the community college students had more ESFJ's. (The two SFJ types accounted for 22% of baccalaureate nurses and 32% of associate degree nurses.)

Analysis of variance showed an overall difference in board scores for

MBTI types in Medical, Pediatric, Obstetric, and Psychiatric, but not in Surgical boards. It was not possible to differentiate types likely to score high or low with the small samples of the study. The mean scores of the MBTI quadrants were:

	Medical	Surgical	Pediatric	Obstetric	Psychiatric
IN	511.43	511.61	542.94	534.37	566.22
EN	512.22	500.19	539.33	531.49	549.78
IS	471.01	485.57	492.93	496.31	497.42
ES	462.77	475.79	484.93	480.74	481.50

These rankings are in the expected order. Williams found no difference in the types who failed and who passed the boards.

8. High and Low Achievers Among Pharmacy Students

Rezler, Mrtek & Gutmann (1975) reported on a group of persistent high achievers in pharmacy compared to a group of persistent low achievers. The high achievers had significantly more introverts and judging types. In the low achievers, therefore, there were more of the types less typical of pharmacy, and less typical of high achievers in Myers research with high school and college students.

This brief review of data on type differences in academic aptitude and achievement in the health professions is obviously a very small sampling of information which must be available, since all training programs have many data on achievement of various kinds.

For those interested in the validity of the theory, the types do fall in the ranks and show the differences one would expect. For those interested in the practical issues of educating health professionals, the fact that type differences are small, often not statistically significant, is more important. All types are able to succeed in the academic requirements of health training.

There are some few signs that there are patterns of achievement in each type which could be identified with larger samples and better control of other variables, such as kinds of tests, their timing, the seriousness with which they are regarded, the anxiety level of students, and so on. Since these studies are among the easiest to conduct, particularly in schools which computerize student records, an effort to report type differences on academic measures in some consistent form, within and across fields of health, should lead to a clearer understanding of typical and atypical records for each type.

Since professional schools intend to graduate their students and dropouts are relatively rare, it may be more relevant to focus on the ways each type can master professional skills and attitudes efficiently, once some clarification has been achieved on type differences in achievement levels.

C. Assessment of Clinical Performance

The issues in assessment of clinical performance have been reviewed in Section A. As usually understood, clinical performance is concerned with those skills in health professionals most directly related to interactions with patients. In most, but not all, training in health fields, these skills are taught after a more academically-presented groundwork has been established in the health sciences. In theory, this sequence is more appropriate for introverts than for extraverts. To paraphrase a description of introverts and extraverts by Myers, introverts cannot deliver health care until after they have the concepts clearly in mind; extraverts cannot grasp the concepts until after they have delivered health care. (The original quotation is: Extraverts cannot begin to understand life until after they have lived it; introverts cannot begin to live life until after they have understood it.)

It was noted in the previous section that introverts and intuitive types have an edge in written tests and academic measures. In theory, extraverts and sensing types should come into their own when they are evaluated on the actual giving of care.

1. Clinical Performance in the Myers Longitudinal Medical Study

Myers obtained grades for the first two years of medical school (academic grades) and for the last two years (clinical grades) for 960 and 952 medical students respectively. Grades were transformed to standard scores with a mean of 50 and standard deviation of 10.

The academic grades for the four quadrants were significantly different (IN 50.9, EN 51.0, IS 49.6 and ES 48.6, *F* 3.17, *df* 3,956, *p* <.001).

In the clinical years, no significant difference in grades was found (IN 50.7, EN 50.8, IS 49.3 and ES 49.4; *F* 1.53, *df* 3,948 *p* >.05).

In a second study, Myers was concerned with type differences in the internship. The study had two parts. In the first, preference for intuition was correlated with College grades, MCAT scores, grades in the academic years, grades in the clinical years, and internship ratings. Two sets of correlations were reported, one for a sample of 163 interns from Howard Medical School, tested in the late 1950's, and one for a sample of 60 interns from the University of New Mexico, tested in the late 1960's. In the Howard interns, preference for intuition was significantly associated with MCAT scores but no other variables; for New Mexico interns, intuition was associated with MCAT scores and grades in the academic years, but with no other variables.

Myers interpreted both these results as evidence that sensing types, who may look less impressive as candidate because of lower MCAT scores, do as well as intuitive types once in medical school and in the internship. Table 57 shows the correlations for the pilot study.

Table 57
Intercorrelations of Preference for Intuition, Medical School Aptitude and Achievement, and Indications of Competence in the Internship, for Students from Two Medical Schools

Measures	MBTI Intuition	Aptitude		Achievement		Competence	
		GPA	MCAT	Academic	Clinical	Ratings	Patterns
	1	2	3	4	5	6	7
Type							
1 Preference for Intuition[a]	--	na	.50**	.08	.12	.01	-.02
Academic Aptitude							
2 College GPA	.11	--	na	na	na	na	na
3 MCAT Scores	.29*	.00	--	.28**	.16*	.01	.12
Medical School Achievement							
4 Academic Course Grades	.42**	.26*	.25*	--	.76**	.21**	.44**
5 Clinical Grades	.06	.00	.11	.38**	--	.36**	.36**
Indications of Competence							
6 Internship Ratings	-.13	.17	-.12	.12	.23	--	.59**
7 Indicator Patterns[a]	-.22	.03	-.10	-.14	-.07	.69**	

Notes: Coefficients above the diagonal are Howard Medical School Sample (*N* 163).
Coefficients below the diagonal are University of New Mexico sample (*N* 60).

* $p < .05$ ** $p < .01$

[a] Biserial correlation. Intersections of columns 1 and 7 are cosine-pi tetrachoric r's.

The Howard-New Mexico study also served as a pilot project for Myers' attempt to identify MBTI response patterns associated with successful internship evaluations. This work is part of the ongoing effort of Myers and McCaulley to individualize MBTI results. Five response patterns associated with internship performance were identified in the Howard sample; three of these appeared in the New Mexico sample and were cross-validated. The correlation of the patterns with internship ratings was .59 for interns from Howard, and .69 for interns from New Mexico. Both correlations are significant with a probability of occurring by chance less than once in 100 times. The reponse patterns have been incorporated into the CAPT program for computer-scoring of the MBTI, for further research as criterion groups are identified with different levels of competence, in medicine or in other professions. The computer program has the capability of adding new patterns for testing as these are identified.

A key feature of Myers' pilot work is that it establishes the principle that each type is particularly vulnerable to specific difficulties in perception and judgment. If these difficulties are overcome, then clinical performance is likely to be rated higher. As research continues to identify these type-related vulnerabilities, then steps can be taken to help students correct them before they enter the clinical years.

2. Clinical Performance in Medical Students at Ohio State University

The Ohio State University has one of the largest samples of MBTI data on medical students. Entering classes have been tested each year since 1967, as part of a comprehensive longitudinal study. The late John S. Camiscioni conducted a series of analyses for MBTI meetings. Most of these have not been published. Some of the major findings are included in this Monograph.

a. Type Difference in Clinical Evaluations

Camiscioni analyzed mean scores for each type on the ten components of the Ohio State College of Medicine Clinical Evaluation Form. Ratings are recorded on a five-point scale, with descriptive paragraphs for each of the five categories. Ratings include an overall rating plus nine component scores for Charts, Initiative, Professional Appearance, Knowledge, Dependability and Attendance, Team Participation, Professional Relationships, and Relationship with Patients. Data are based on a sample of 371 students. CAPT has no information on the details of how the many evaluations of a student were summarized into one clinical evaluation score.

Extraverts were rated significantly higher than introverts in Initiative, Knowledge, Professional Appearance, Dependability and Attendance, Team Participation, Professional Relationships, Relationships with Patients, and Overall Clinical Evaluation.

Sensing types were rated higher than intuitive types in Professional Appearance. There were no other significant differences between

Table 58
Clinical Performance Ratings for Initiative and for Dependability and Attendance of Ohio State University Medical Students

Myers-Briggs Type Indicator **Type Table**

MEDICAL STUDENTS: OHIO STATE UNIVERSITY

CLINICAL EVALUATION - INITIATIVE

N = 371

	SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
	ISTJ	*ISFJ*	*INFJ*	*INTJ*	JUDGING / INTROVERTS
	N = 32 % = 8.6	N = 38 % = 10.2	N = 24 % = 6.5	N = 21 % = 5.7	
Mean	3.63	3.60	3.63	3.68	
S.D.	.34	.27	.29	.35	
	ISTP	*ISFP*	*INFP*	*INTP*	PERCEPTIVE / INTROVERTS
	N = 9 % = 2.4	N = 9 % = 2.4	N = 38 % = 10.2	N = 29 % = 7.8	
Mean	3.64	3.55	3.52	3.42	
S.D.	.32	.24	.37	.35	
	ESTP	*ESFP*	*ENFP*	*ENTP*	PERCEPTIVE / EXTRAVERTS
	N = 6 % = 1.6	N = 8 % = 2.2	N = 28 % = 7.5	N = 19 % = 5.1	
Mean	3.75	3.62	3.71	3.50	
S.D.	.53	.27	.27	.35	
	ESTJ	*ESFJ*	*ENFJ*	*ENTJ*	JUDGING / EXTRAVERTS
	N = 32 % = 8.6	N = 24 % = 6.5	N = 34 % = 9.2	N = 20 % = 5.4	
Mean	3.70	3.70	3.85	3.81	
S.D.	.31	.27	.31	.63	

	N	Mean	S.D.	t or F
E	171	3.72	.37	t 15.87***
I	200	3.58	.33	
S	158	3.65	.31	t 0.06
N	213	3.64	.39	
T	168	3.63	.40	t 0.61
F	203	3.66	.31	
J	225	3.70	.35	t 13.74***
P	146	3.56	.35	
IJ	115	3.63	.31	F 9.49***
IP	85	3.50	.35	
EP	61	3.64	.33	
EJ	110	3.77	.38	
ST	79	3.70	.34	F 1.21
SF	79	3.63	.27	
NF	124	3.67	.34	
NT	89	3.59	.45	
SJ	126	3.65	.30	F 6.76***
SP	32	3.63	.33	
NP	114	3.54	.35	
NJ	99	3.75	.40	
TJ	105	3.70	.40	F 5.26**
TP	63	3.51	.37	
FP	83	3.60	.33	
FJ	120	3.70	.30	
IN	112	3.55	.35	F 6.09***
EN	101	3.74	.40	
IS	88	3.61	.30	
ES	70	3.69	.31	

NOTES: * $p<.05$, ** $p<.01$, *** $p<.001$ (based on t test for EI, SN, TF and JP, and on F from one-way analysis of variance for other comparisons).

One-way analysis of variance for all 16 types df 15/2778 F 15.30***.

Predictions for this table are E > I and J > P.

Investigator: John Camiscioni, M.A., College of Medicine, The Ohio State University.

Data prepared in 1974.

Myers-Briggs Type Indicator **Type Table**

MEDICAL STUDENTS: OHIO STATE UNIVERSITY

CLINICAL EVALUATION - DEPENDABILITY AND ATTENDANCE

N = 370

	SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
	ISTJ	*ISFJ*	*INFJ*	*INTJ*	JUDGING / INTROVERTS
	N = 32 % = 8.6	N = 38 % = 10.3	N = 24 % = 6.5	N = 21 % = 5.7	
Mean	3.78	3.73	3.82	3.79	
S.D.	.29	.32	.26	.33	
	ISTP	*ISFP*	*INFP*	*INTP*	PERCEPTIVE / INTROVERTS
	N = 9 % = 2.4	N = 9 % = 2.4	N = 38 % = 10.3	N = 29 % = 7.8	
Mean	3.74	3.72	3.60	3.62	
S.D.	.34	.19	.39	.38	
	ESTP	*ESFP*	*ENFP*	*ENTP*	PERCEPTIVE / EXTRAVERTS
	N = 6 % = 1.6	N = 8 % = 2.2	N = 28 % = 7.6	N = 19 % = 5.1	
Mean	3.73	3.72	3.81	3.58	
S.D.	.68	.19	.30	.35	
	ESTJ	*ESFJ*	*ENFJ*	*ENTJ*	JUDGING / EXTRAVERTS
	N = 32 % = 8.6	N = 24 % = 6.5	N = 34 % = 9.2	N = 19 % = 5.4	
Mean	3.78	3.83	3.92	3.77	
S.D.	.36	.27	.28	.27	

	N	Mean	S.D.	t or F
E	170	3.79	.33	t 5.02*
I	200	3.72	.34	
S	158	3.77	.32	t 0.54
N	212	3.74	.35	
T	167	3.72	.35	t 1.58
F	203	3.77	.32	
J	224	3.80	.30	t 14.86***
P	146	3.67	.37	
IJ	115	3.78	.30	F 6.35***
IP	85	3.63	.37	
EP	61	3.72	.36	
EJ	109	3.83	.30	
ST	79	3.77	.35	F 1.52
SF	79	3.76	.28	
NF	124	3.78	.35	
NT	88	3.69	.35	
SJ	126	3.78	.35	F 5.98***
SP	32	3.69	.35	
NP	114	3.65	.37	
NJ	98	3.84	.29	
TJ	104	3.78	.31	F 5.56***
TP	63	3.64	.40	
FP	83	3.70	.34	
FJ	120	3.82	.29	
IN	112	3.69	.36	F 2.24
EN	100	3.80	.32	
IS	88	3.75	.29	
ES	70	3.79	.35	

NOTES: * $p<.05$, ** $p<.01$, *** $p<.001$ (based on t test for EI, SN, TF and JP, and on F from one-way analysis of variance for other comparisons).

One-way analysis of variance for all 16 types df 15/2778 F 15.30***.

Prediction for this table is J > P.

Investigator: John Camiscioni, M.A., College of Medicine, The Ohio State University.

Data prepared in 1974.

sensing and intuitive types (though sensing types were rated slightly higher than intuitives in 8 of the 10 ratings. The Ohio State data are in agreement with Myers' findings that the advantage of the intuitive types in academic scores does not carry over to clinical ratings.

There were no significant thinking-feeling differences on any scale.

Judging types who, in other studies, have been rated as organized, responsible and persistent, were rated significantly higher on Charts, Initiative, Knowledge, Professional Appearance, Professional Judgment, Dependability and Attendance, Team Participation, Professional Relationships, and Overall Clinical Evaluation.

The Ohio State data may have uncovered a previously unknown phenomenon, the "ENFJ halo effect." The typically enthusiastic, concerned and verbal ENFJ's swept the field, ranking highest on all ten ratings.

Table 58 illustrates these findings, showing the type tables for Initiative and for Dependability and Attendance.

b. Predictors of Clinical Performance in Pediatrics

Turner, Helper and Kriska (1974) used measures in the Ohio State longitudinal study bank in an attempt to predict to three elements of clinical competence, skill in communication, skill in performing physical examination, and interpersonal skill. Ratings by trained raters were based on videotapes of outpatient visits to medical students in a pediatrics clinic. Students were rank-ordered on all variables; the sum of the ranks yielded an overall competence score. Fifty students were included in the study. Sixty-six variables were correlated with the competence ratings; eleven had correlations significant at the p .10 level. The non-MBTI measures related high clinical performance to emotional integration with some expression of anxiety. Two MBTI scales entered into the prediction, SN and JP. Higher ratings were associated with a preference for sensing and for perception, described by the authors as "a kind of openness to first-hand experience and spontaneity in responding to it. They do not immediately make moral judgments of others or leap intuitively to abstract categorizations of them."

No data are reported on individual types, nor is there any analysis to see whether the rankings shift for the three components of clinical performance. One might expect that different types would rank high on physical examination and on interpersonal communication.

c. A Model for Relating Academic and Clinical Performance

A Sequential Prediction Model showing the positions of each of the 16 MBTI types on academic and clinical measures was presented by Camiscioni at a symposium during the Research in Medical Education sessions at the 1974 Annual Meeting of the Association of American

Colleges. In this presentation, the types are positioned on a series of 10 figures; standard (z) scores are plotted at the point where values on two measures intersect. Figure 5 shows the sequential schema, and locates by number each of the sequential figures. For example, Figure 1 on the schema refers to Figure 5-1 showing the relationship between Pre-Medical Point-Hour Ratio and MCAT Science Scores.

Camiscioni's figures are a clear method of showing how and where each type changes position under different kinds of evaluation. Only one type, ENTJ, is in the upper right quadrant for all 10 figures. No type falls in the lower left quadrant in all ten.

If similar data could be presented for other medical schools, and for other health professions, it would soon become possible to identify consistent patterns for each type, patterns which persist in different settings. Such knowledge would suggest ways of helping low-rated types to develop needed skills earlier in their careers.

3. Clinical Problem-Solving of New Mexico Medical Students

The research team of the New Mexico Longitudinal Medical study looked at type differences in problem solving. Their reasoning can be summarized as follows (Graham and Otis, 1973 p. 18).

"If clinical problem solving truly requires different kinds of operations by the problem solver, and if proficiency in these aspects can be indexed in some way, and

If these operations are related in some fashion to the processes postulated by type theory, either in terms of being co-extensive with them or formed by some combination of the processes involving them, and

If different psychological types have differentially perfected some of these processes,

Then, there should be significant associations between psychological types and proficiency in different aspects of problem solving."

Data for the study came from 47 students enrolled in a course entitled Introduction to Clinical Medicine. The examination for the course had five parts: (1) Observation/Decription (25 questions about a one-minute videotape of a simulated patient), (2) Nonverbal Behaviors (ratings of fourteen 10-second videotape simulated patient behaviors), (3) Clinical Problem-Solving (five problems with a videotaped doctor-patient interaction), (4) Medical Interviewing (multiple choice test on use of logical analysis in collecting and using interview data), and (5) Diagnosis (paper-and-pencil test in which correct answer depends on understanding the context of the problem and the assigned readings).

Observation/Description was associated with high scores on extraversion and perception, Nonverbal behaviors with extraversion, Clinical Problem-Solving with intuition, and Medical Interviewing with Thinking.

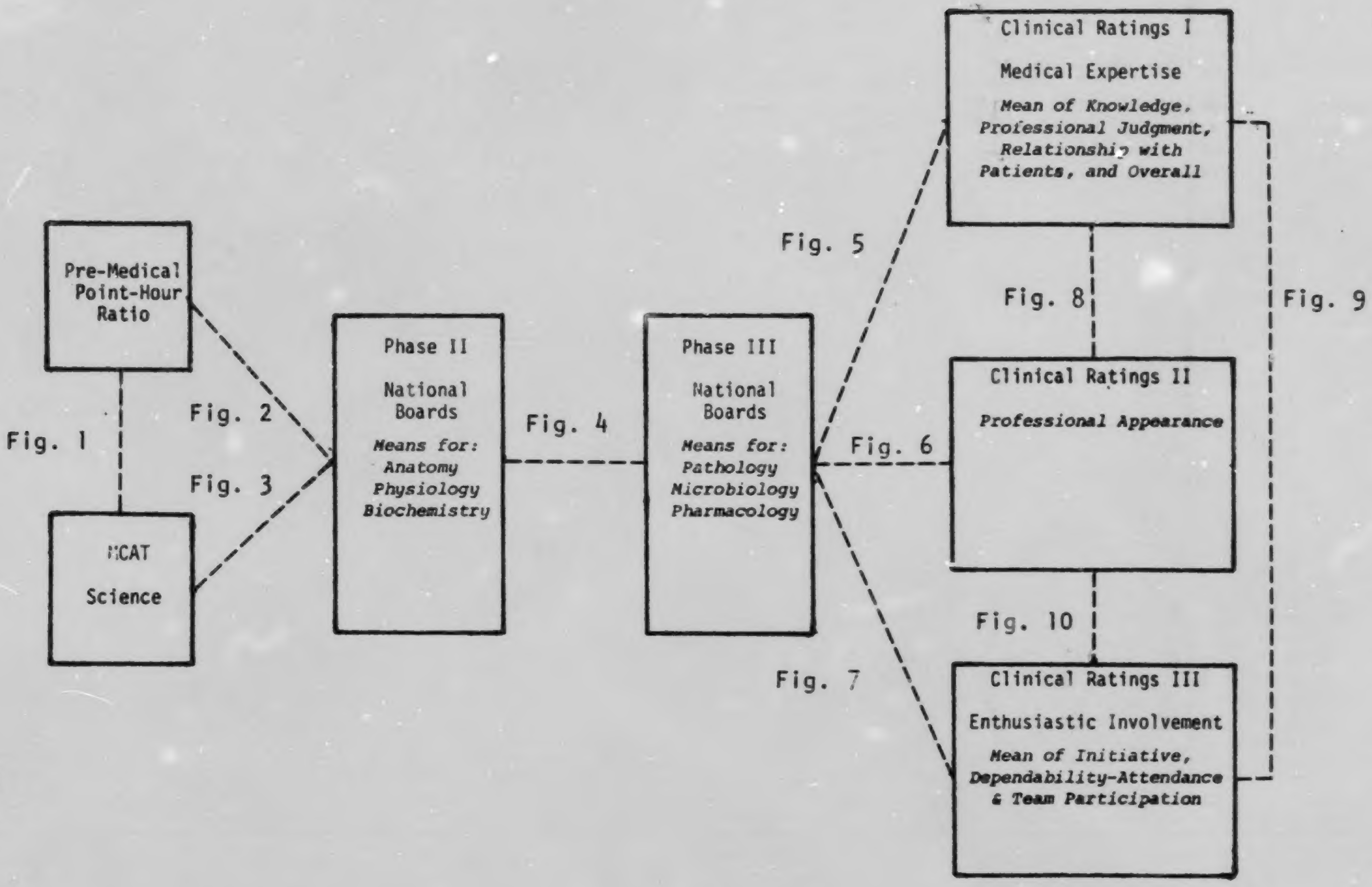
Pre-Medical Point-Hour Ratio
MCAT
Science
Fig. 1
Fig. 2
Fig. 3
Phase II
National Boards
Means for:
Anatomy
Physiology
Biochemistry
Fig. 4
Phase III
National Boards
Means for:
Pathology
Microbiology
Pharmacology
Fig. 5
Fig. 6
Fig. 7
Clinical Ratings I
Medical Expertise
Mean of Knowledge, Professional Judgment, Relationship with Patients, and Overall
Fig. 8
Fig. 9
Clinical Ratings II
Professional Appearance
Fig. 10
Clinical Ratings III
Enthusiastic Involvement
Mean of Initiative, Dependability-Attendance & Team Participation

Figure 5
Sequential Prediction Schema Showing Comparisons of Type Standings of Ohio State Medical Students on Pairs of Academic and/or Clinical Evaluation Ratings.

Figure numbers refer to following figures which plot pairs connected by the dotted lines.

Taken from a presentation by John S. Camiscioni in a RIME symposium entitled "The Myers-Briggs Type Indicator in Medical Education and Practice," Annual Meeting, Association of American Medical Colleges, Chicago, November, 1974.

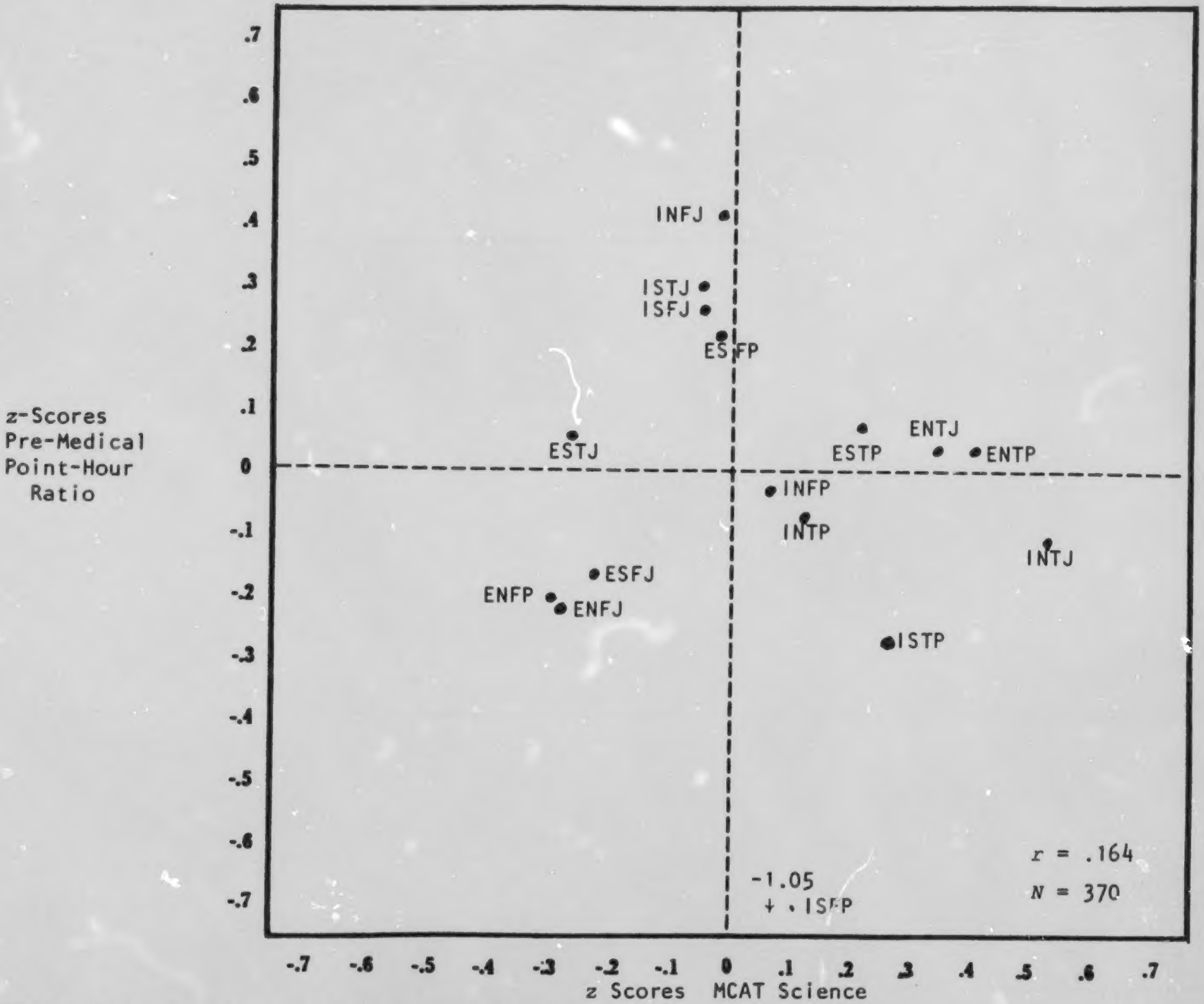

Figure 5-1. Pre-Medical Point-Hour Ratio Compared to MCAT Science

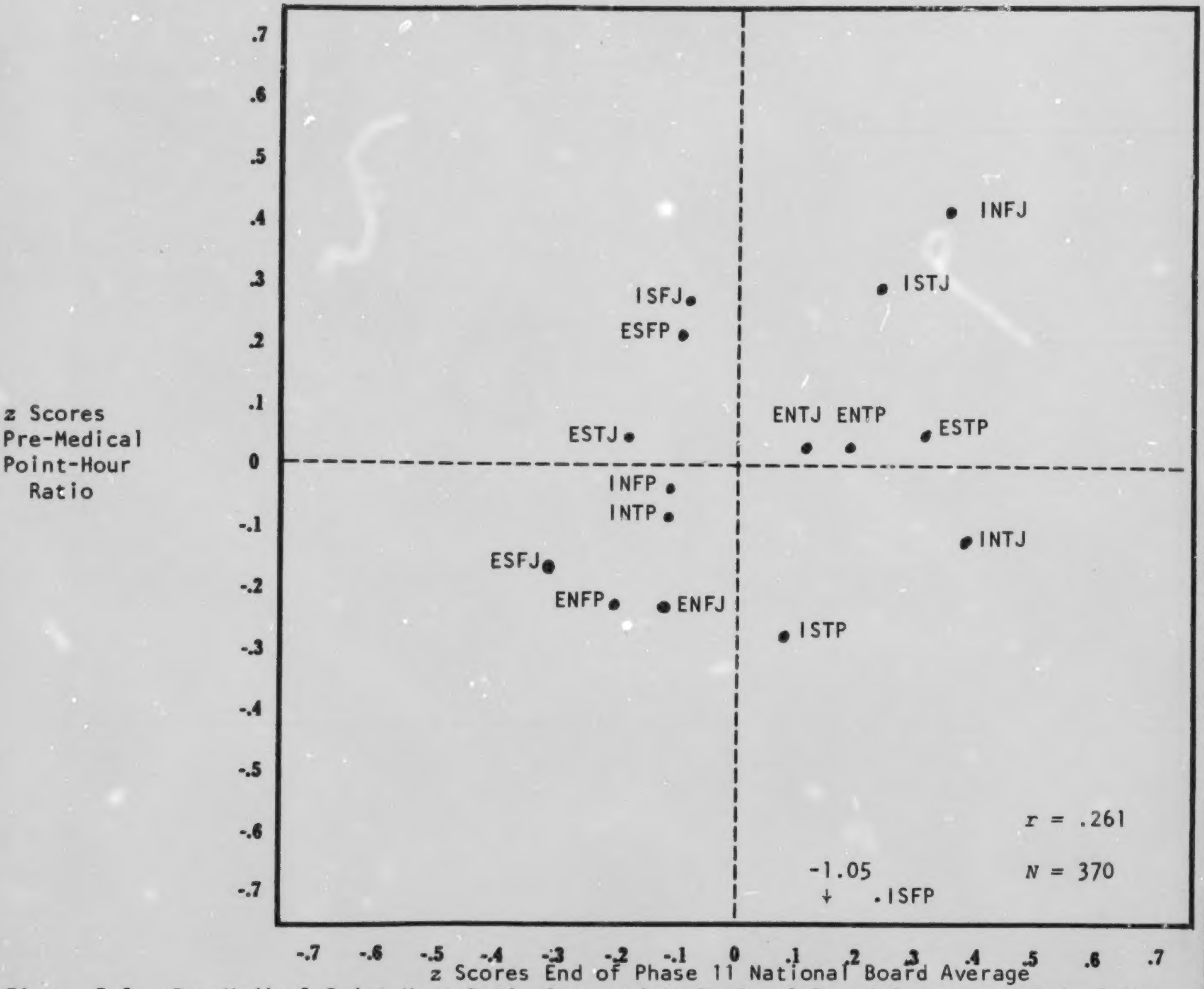

Figure 5-2. Pre-Medical Point-Hour Ratio Compared to National Board Average at End of Phase I

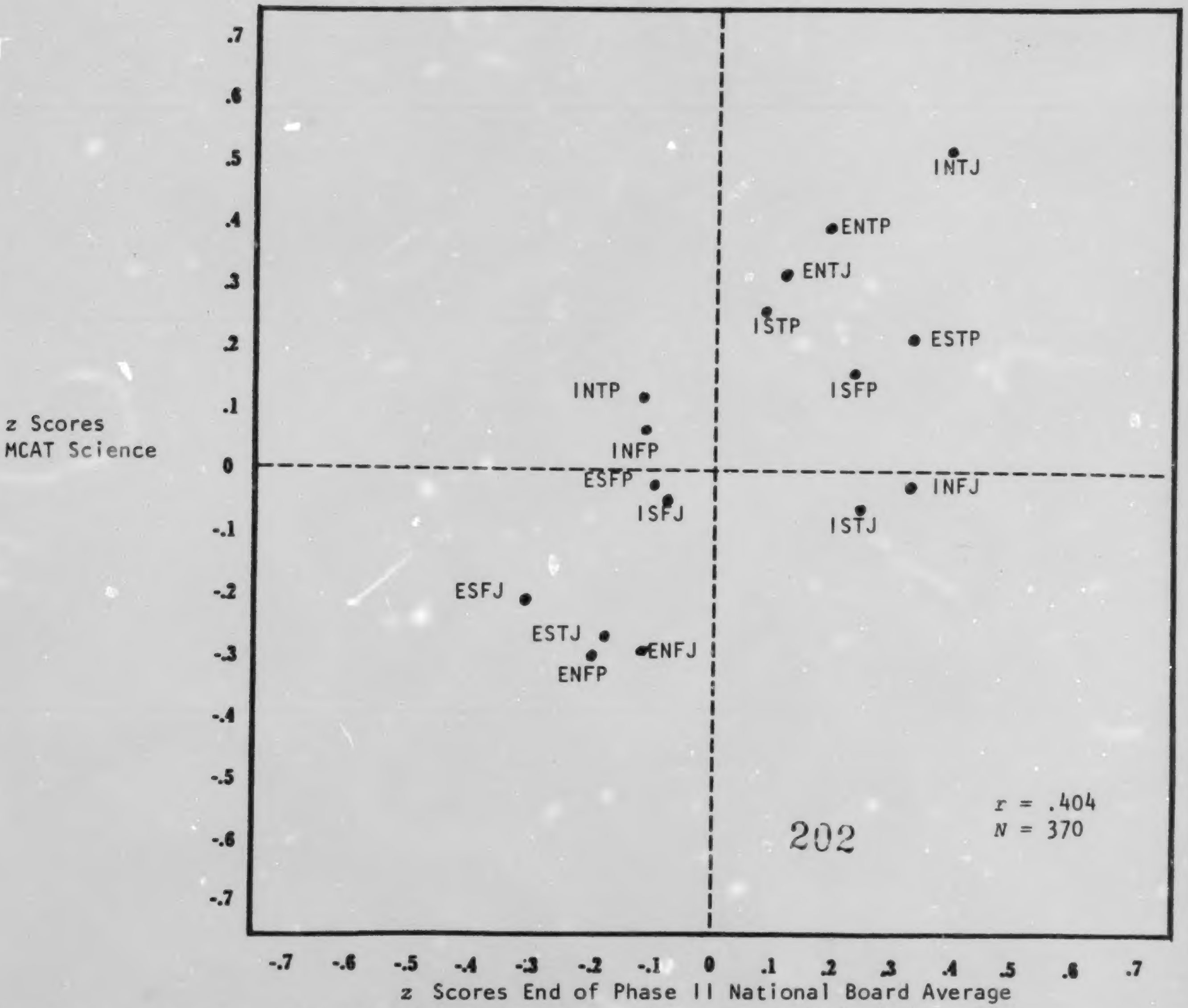

Figure 5-3. MCAT Science Compared to National Board Average at End of Phase II

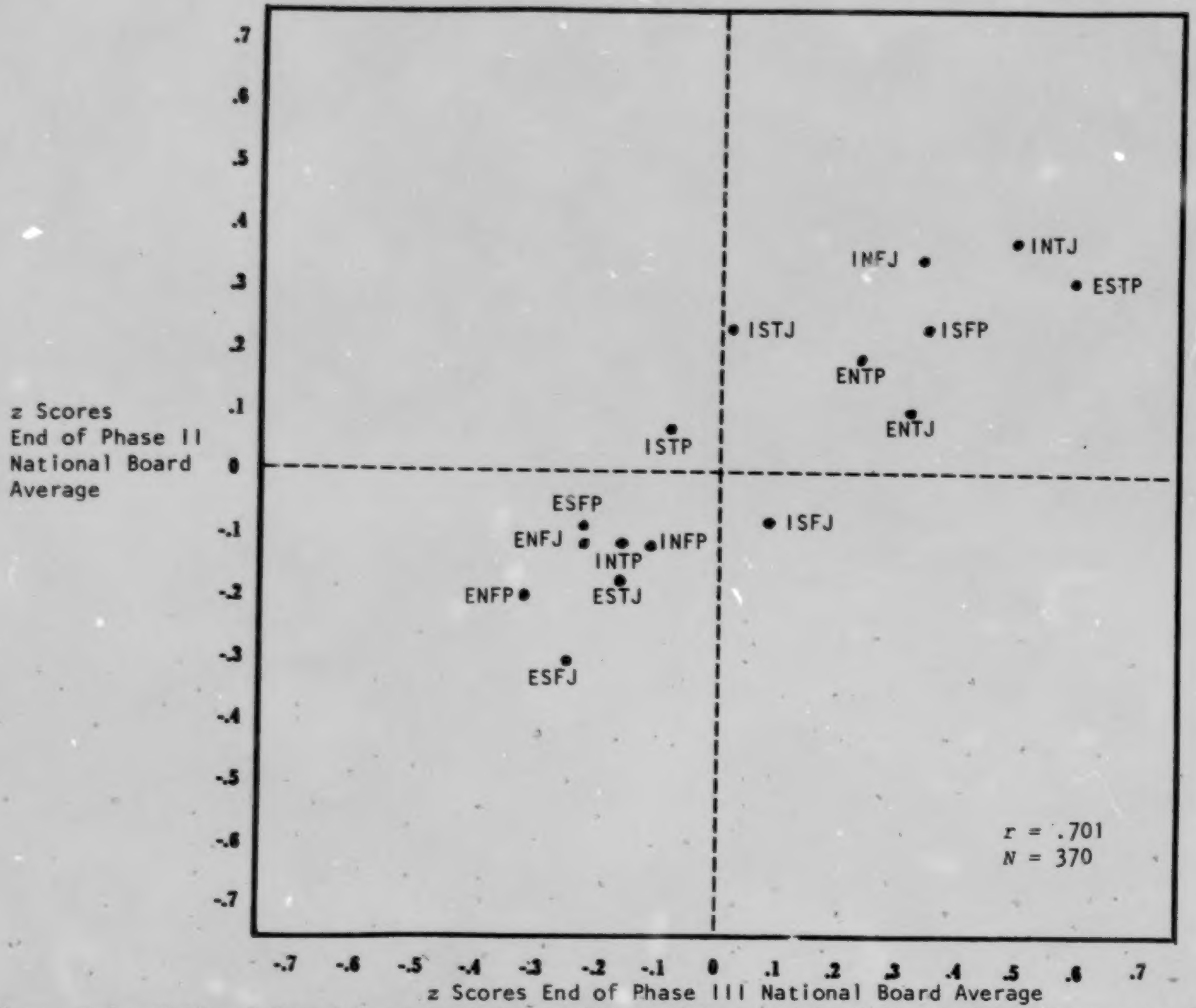

Figure 5-4. National Board Average at End of Phase II Compared to National Board Average at End of Phase III

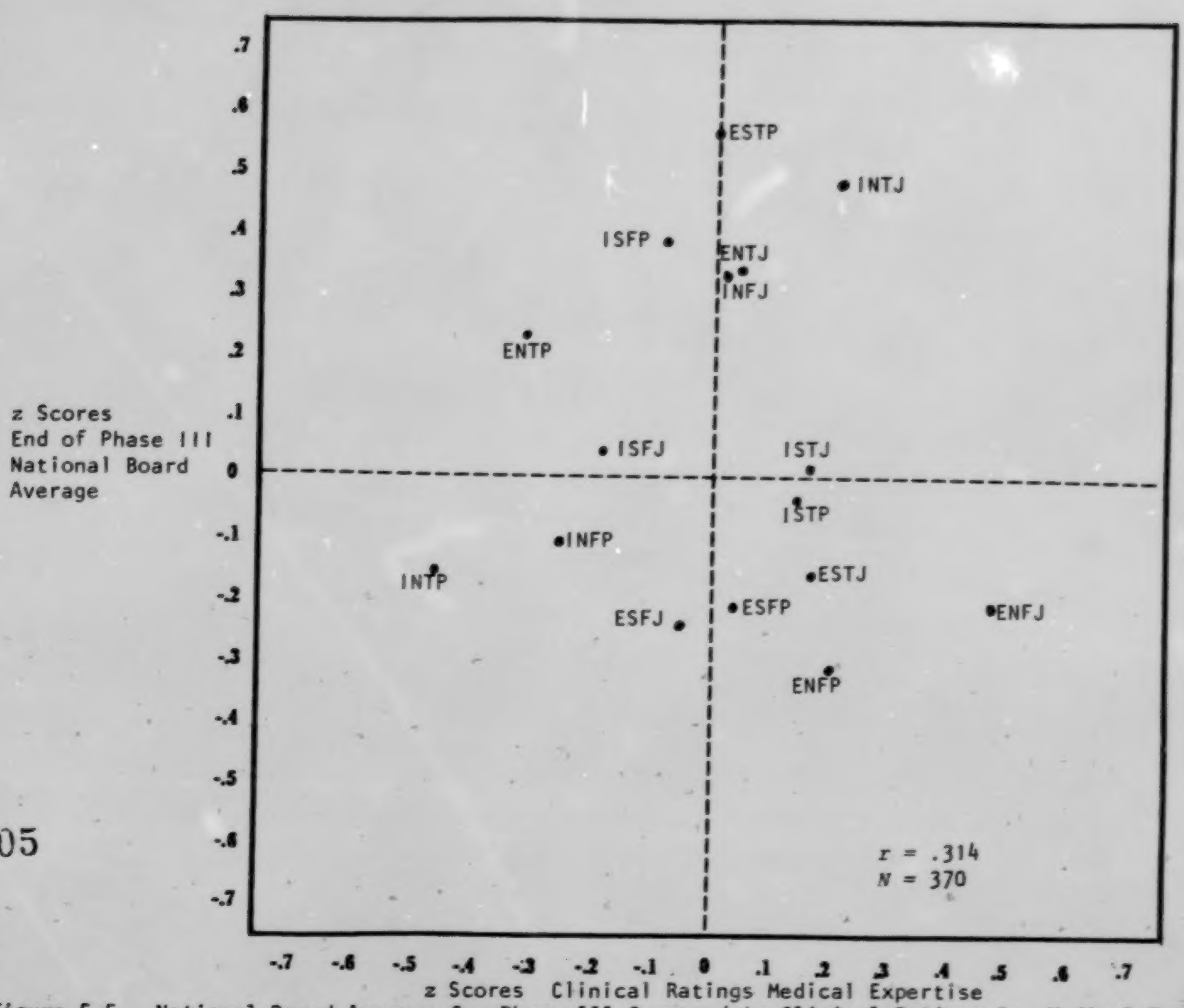

Figure 5-5. National Board Average for Phase III Compared to Clinical Ratings I: Medical Expertise

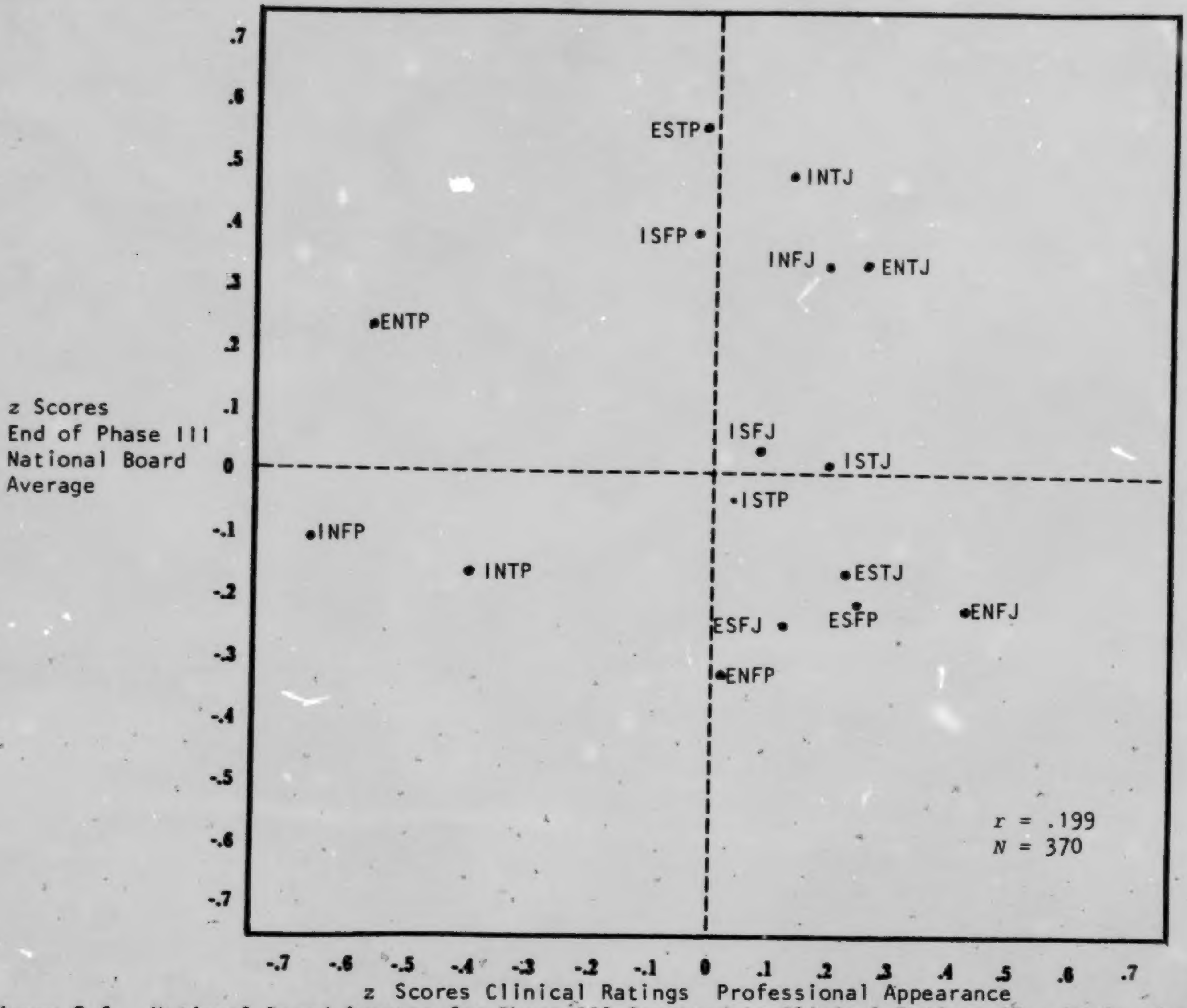

Figure 5-6. National Board Average for Phase III Compared to Clinical Ratings II: Professional Appearance

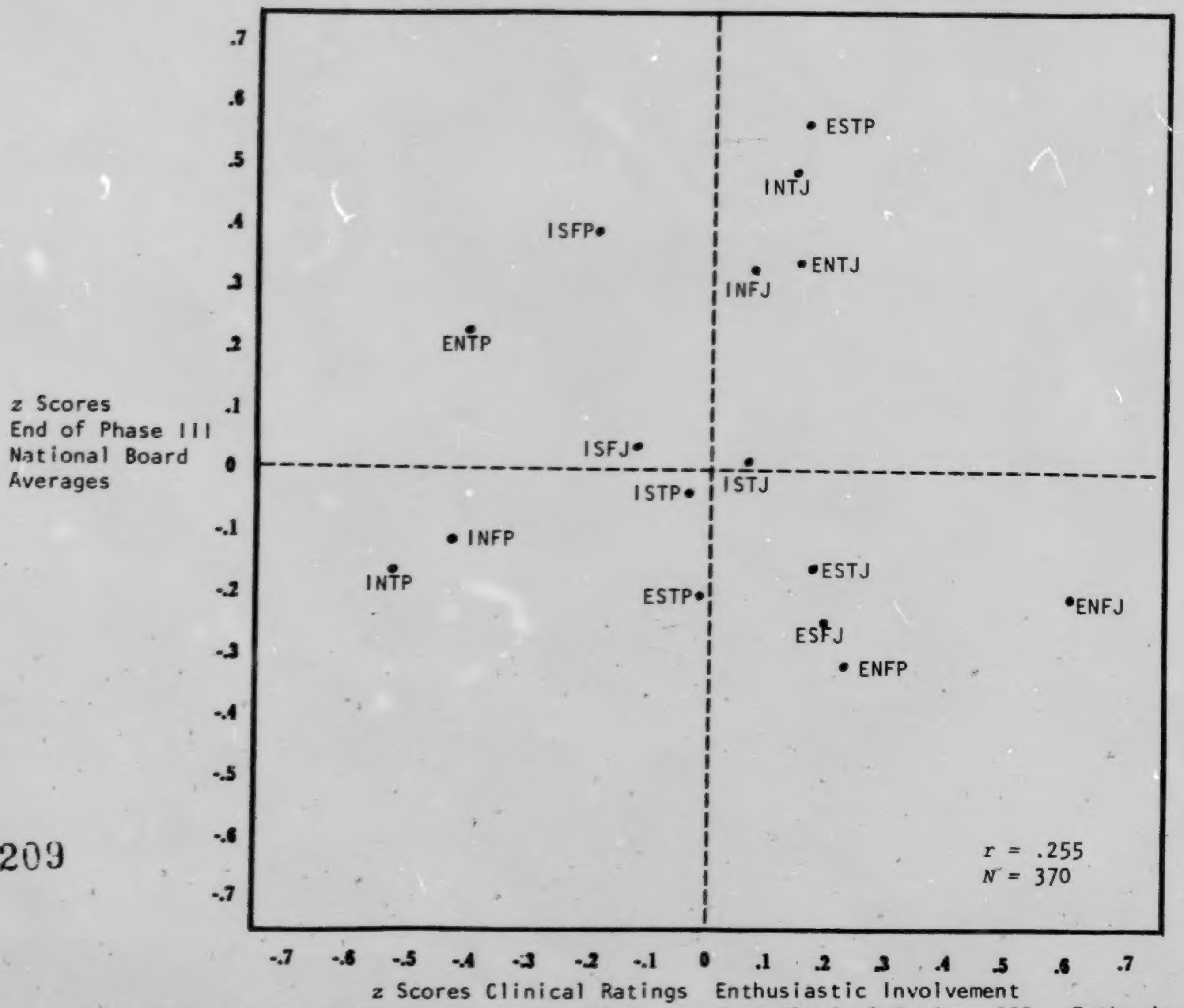

Figure 5-7. National Board Average for Phase III Compared to Clinical Ratings III: Enthusiastic Involvement

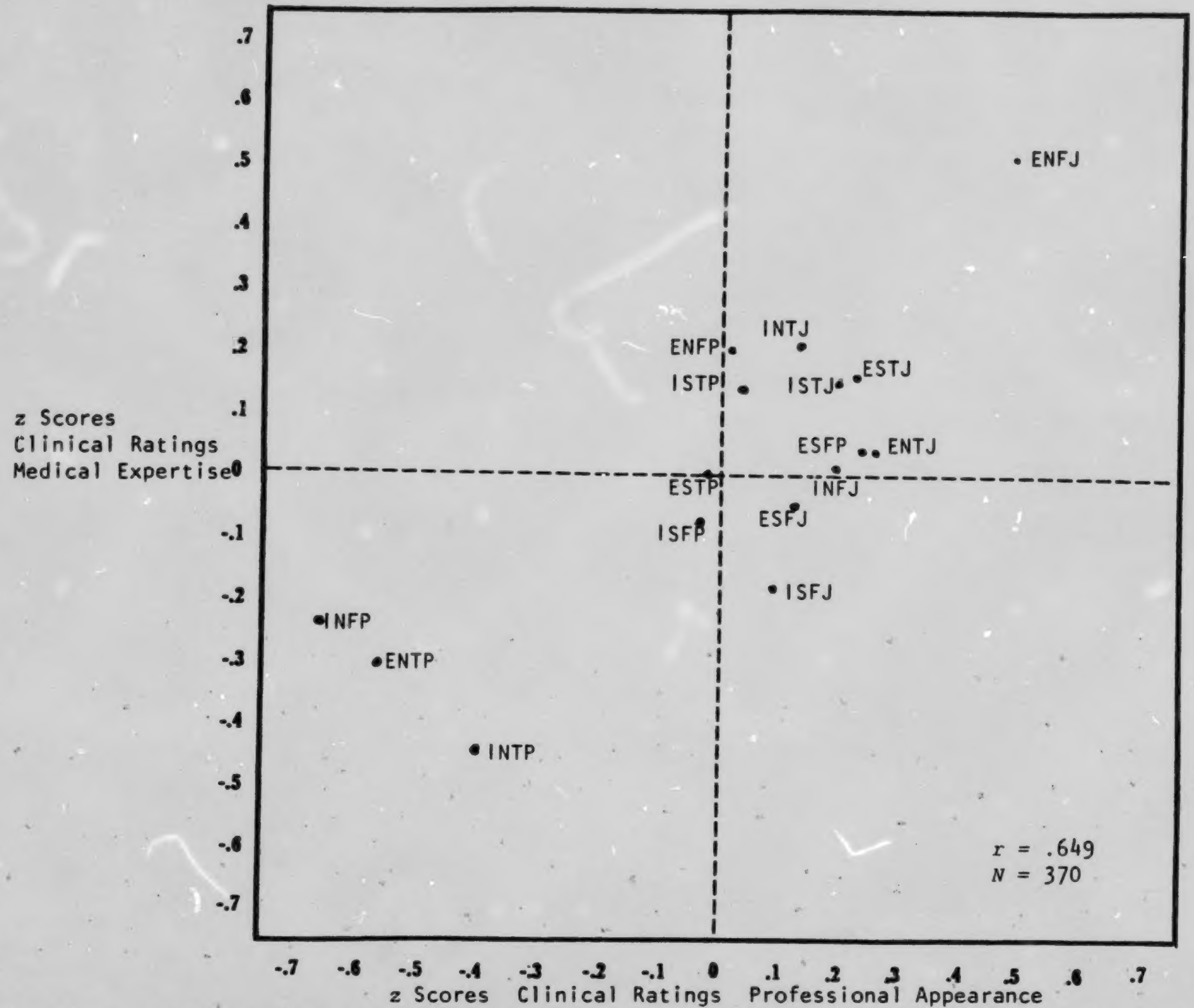

Figure 5-8. Clinical Ratings for Medical Expertise (I) Compared to Clinical Ratings for Professional Appearance (II)

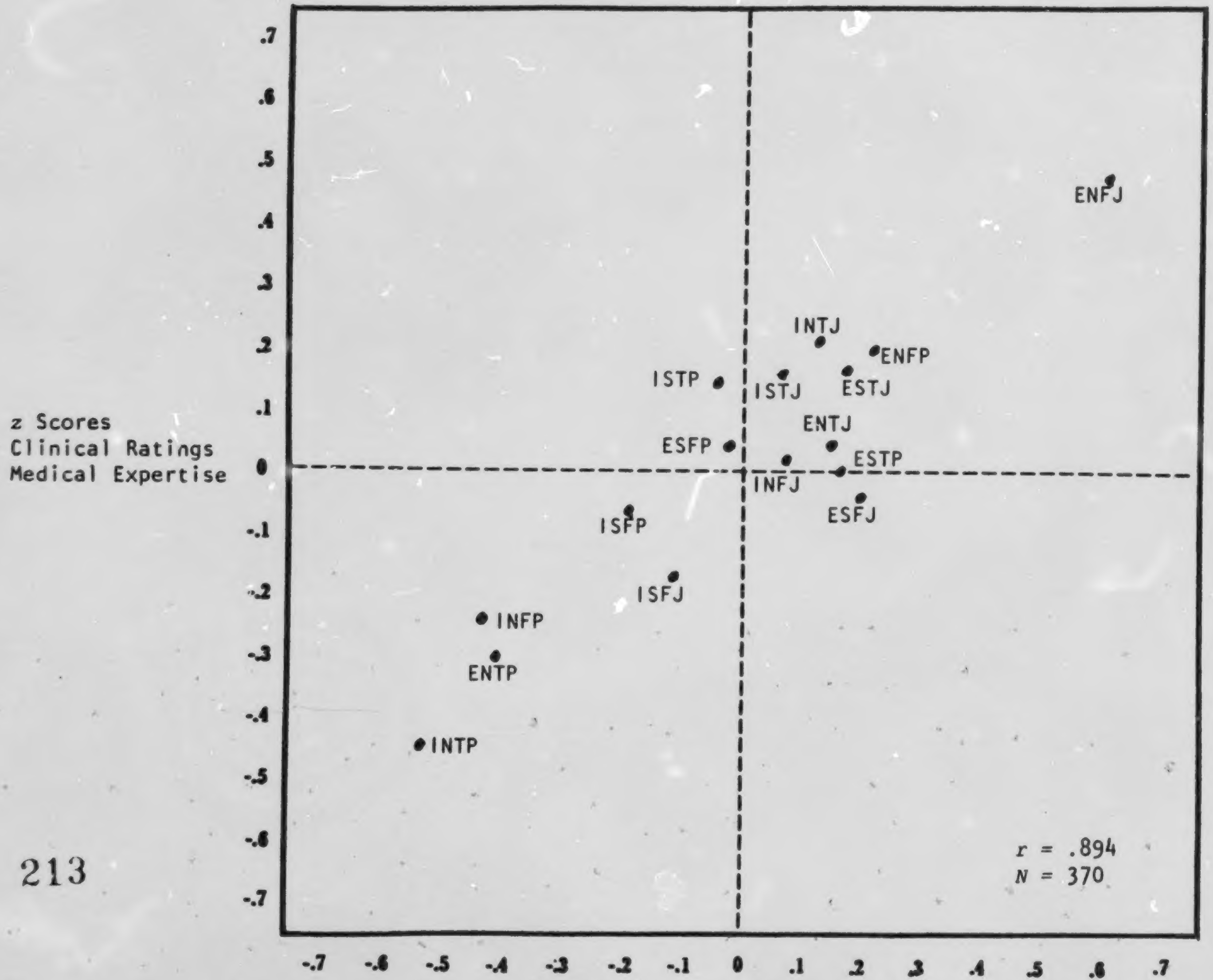

Figure 5-9. Clinical Ratings for Medical Expertise (I) Compared to Clinical Ratings for Enthusiastic Involvement (III)

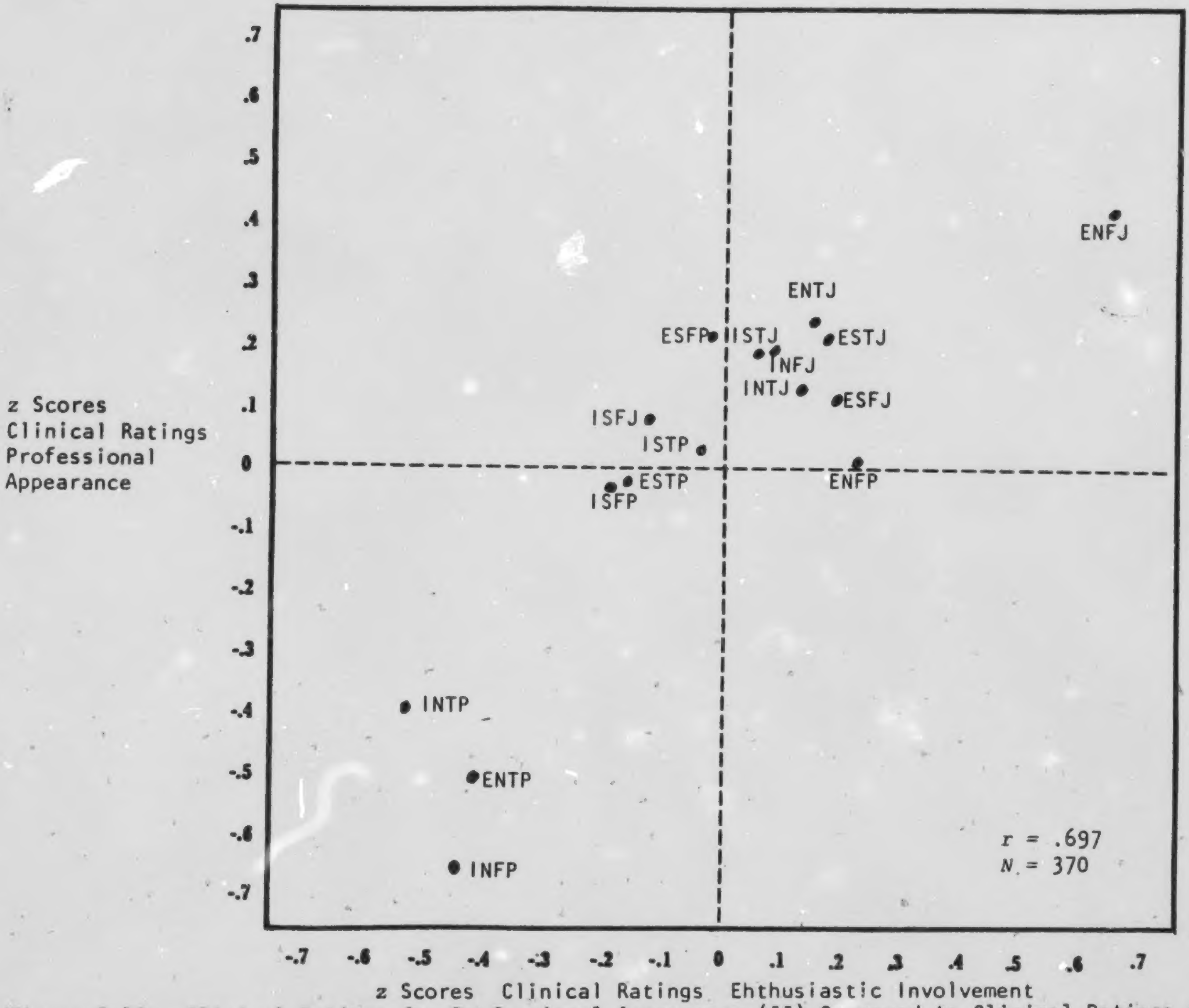

Figure 5-10. Clinical Ratings for Professional Appearance (II) Compared to Clinical Ratings for Enthusiastic Involvement (III)

These are all in the directions consistent with Jung's theory. Table 59 shows the correlations.

Table 59
Product-Moment Correlations of MBTI Continuous Scores and Five Evaluation Measures in "Introduction to Clinical Medicine"

Measure	EI	SN	TF	JP	Direction
Observation/Description	-41**	08	23	26*	E--P
Nonverbal Behaviors	-28*	-22	-04	12	E---
Clinical Problem Solving	-04	35*	-03	11	-N--
Medical Interviewing	-03	-22	-35**	-13	--T-
Diagnosis: Situational	22	-04	14	-09	----

Note: Decimals omitted from correlations.

The New Mexico students were evaluated early in medical school for two courses entitled Clinical I and II; the earlier course is mainly concerned with the ability to establish rapport with patients; the later course requires more application of clinical knowledge. In the preliminary work on object types, the extraverted types were more likely to be rated higher on Clinical Science I. Thinking types and anxious introverts received lower ratings.

4. Studies Related to Clinical Performance in Other Fields of Health

a. In studies of medical students and students in an interdisciplinary health care team at the Medical College of Georgia, Kenneth Morse studied type differences in openness of belief systems, using a reversed form of the Rokeach Dogmatism Scale. In medical students, intuitive types and perceptive types described themselves as having more open belief systems. These findings are consistent with type theory, since the -N-P group are expected to be more open to new possibilities, while the -S-J group should be more reliant on the experience and system of the past.

In paper-and-pencil measures designed to assess ability to see the meanings of communications and to give helpful responses, in terms of Carkhuff's Scale of Interpersonal Processes, Morse found that intuitive types among 57 students in health team training were significantly better at discriminating meanings and at giving helpful responses.

b. In a study of students in counselor education, Newman (1975) also found that intuitive types scored higher on a measure of inferred meanings of tape-recorded statements.

c. There are a number of inconclusive studies, many with small samples, attempting to understand aspects of clinical performance. Caine and Small (1969) studied tendencies to conceptualize attitudes toward treatment as mainly organic or psychtherapeutic, using nursing students, occupational therapy students, and naive subjects. Sensing types were more likely to seek organic solutions, and intuitive types, psychotherapeutic treatments. Durfee (1971) found no type differences in attitudes toward disabled persons. Lester (1971) used Carkhuff empathy ratings in studying non-professional crisis counselors, and found higher empathy among types that extraverted judgment, but gives no type distributions for looking at intuition or feeling the two preferences traditionally associated with empathy. Braun (1971) studied 48 therapist-patient pairs at 4 VA clinics and found that dissimilarity on thinking-feeling preference was associated with lower empathy, in females only. He also noted that intuitives with extreme N scores were less empathic. Since intuition is described as having a compelling quality, it is possible that persons who "see" patients problems intuitively without sufficiently validating their hunches can lose the capacity to understand others in their own terms. Cooke (1975) compared successful and unsuccessful nursing students and found no differences in type distributions. There were only 10 students in the unsuccessful group, however.

d. As the staff of CAPT has talked with investigators using the MBTI in the course of this project, a number of observers have reported discoveries of type differences in assessment of clinical competence. Several faculties who use type concepts in working with students became aware of how very differently faculty of opposite types looked at the same student, and these understandings led to considerable refinement in their evaluation process.

Health team projects of the AMSA Foundation and the Institute for Health Team Development have extensive and intensive records of health teams, including videotapes at different stages of training. As reports of findings from these projects become available, we hope they will identify type differences in initial competencies and changes in competencies as training progresses.

The entire issue of evaluation of clinical performance is an area where type concepts and research findings can be of great value. If, as now seems likely, different types of students come to training with competencies at different levels of development, and become interested in acquiring competencies at different stages of training, and finally have greater or less difficulty in acquiring competencies, then multi-track systems which take advantage of these facts should lead to more efficient learning.

Any studies in the more general area of learning styles, to be discussed in the following section, can establish basic information on which more sophisticated studies of clinical performance can be built. The data already existing in longitudinal studies are also a valuable resource for research in clinical performance, and follow-up studies by a consortium of researchers could make rapid headway in this most difficult and critical area.

D. Health Professions Students and Their Learning Environments

In the last ten years a number of educators have been using Jung's type theory as a tool in improving education at all levels by taking type differences into account. This section is concerned with progress in this undertaking in the health professions.

1. Initial Perceptions of Ohio State Medical Students

The data in this section were contributed by Larry Sachs of The Ohio State College of Medicine. The data included responses to an entry questionnaire of the Ohio State Longitudinal Study, with summaries by type for 1345 entering students. Our project created SRTT tables from these summaries, and the ratios reported are from these SRTT's.

a. Past and Future Academic Success

Intuitive types were in the majority in the students expecting to do better than average in medical school (1.27***). Sensing types were more likely to say their work would be average (1.24**).

Asked about success in the past, introverts were more likely to say they had won success easily (1.10**), especially the IN (1.13*) and IP (1.28*) groups. The solid and practical IS types said they had not had past superior scholastic achievement (1.23*).

b. Self-Ratings of Skills on Entering Medical School

Clear and concise writing: High skill was claimed by intuitive types (1.19***) while sensing types said they were below average (1.38***).

Verbal expression: Extraverts rated themselves as high in verbal expression (1.34***) and introverts as below average (1.67***).

Logical thinking: Both thinking types (1.16***) and intuitive types (1.17***) rated themselves high on logical thinking, with the logical and ingenious NT types rating highest (1.40***) and the sympathetic and friendly SF group rating lowest (.63***).

Originality: Both extraverts (1.27***) and intuitive types (1.41***) rated themselves high in originality, with the EN group rating highest (1.80***) and sensing types classifying themselves as below average (1.67***).

Memorizing facts: The innovative EN types (1.16*) and the logical and ingenious NT types (1.21*) rated themselves high at memorizing facts, while the thorough and thoughtful IS types rated themselves low (.78**). These ratings are the opposite of what would be expected from theory, since sensing types are expected to be more interested in facts, and intuitives are expected to have more interest in what facts mean, with only a passing interest in the facts themselves.

Skill in interpersonal relations: Extraverts gave themselves high ratings (1.50***) and introverts were likely to classify themselves as below average (1.68***) in skill in interpersonal relations.

Work organization: Judging types rated themselves high (1.11*) and perceptive types described themselves as below average (1.94***), with -S-P types particularly aware of their deficiency in organizing their work (2.44***).

Perseverance in problem-solving: Thirty-eight percent of students rated themselves high in perseverance at solving problems. The confident E--J types (1.15**) and the tough-minded -NTJs (INTJ 1.31* and ENTJ 1.38**) significantly gave themselves high ratings. It would be useful to separate perseverance which is in theory a quality associated with J, and problem-solving which is in theory associated with N. The most persevering types, ISTJ and ISFJ rated themselves non-significantly low (0.85 and 0.88) when the question was asked in this form.

c. First or Second Choices of Skill Training Needed

Reading: Skill-training in reading was chosen by 48% of students. Extraverts (1.09**) and sensing types (1.12***) were over-represented with the academic IN types not needing reading training (0.86***) and the pragmatic ES types seeking it (1.25***). Despite these theoretically expected selection ratios, in actual numbers a substantial group in each type wanted skill training in reading. It would be useful to know if this request is a response to the volume of reading which threatens to overwhelm even those who read rapidly.

Note taking: Thirteen percent of students chose training in note taking. Again, the academic IN-- types did not see the need of this training (0.74*) but the pragmatic ES types did (1.36*).

Typewriting: Sixteen percent of students voted for typewriting skill training; least likely to choose it were the -SF- types, with ISFJ significantly unlikely to do so (0.39**). Perhaps these types already have acquiried typing skills.

Writing papers: Thirteen percent of students chose skill training in writing papers. Extraverts were more likely to request training (1.19*).

Organizing studies: Only 8% of students chose skill in organizing their work. There were no group differences, but one type, the spontaneous ENFP's, significantly made this choice (1.61*).

Use of the library: There were no overall type differences in the 11% of students who wanted skill training in using the library. ENFP's significantly did not make this choice (0.43*).

Critical analysis: Nineteen percent of students wanted training in critical analysis. The -NT- types, who in theory should already be best at critical analysis, significantly chose more training (1.24**). This may point up a difference between wanting training in a skill that is lacking, and wanting training on an acquired skill of high value. Comparison of actual abilities would be very useful here.

Meeting people: Twenty percent of students voted for skill training in meeting people; Introverts accounted for 76% (ratio 1.38***). The confident E--J types significantly did not see the need for this kind of training (0.37***). In light of other data from New Mexico, it is interesting to note that the types most likely to need training in meeting people, the introverted thinkers, were not interested in this kind of training when they entered medical school. It may be that they do not see the relevance and importance of such training until confronted with the problems of the clinical years.

Public speaking: Twenty-eight percent of students voted for skill training in public speaking. Introverts were more likely to choose this training (1.11**) but three types account for most of the preference (ISTJ 1.25, ISFJ 1.27 and INFJ 1.46**).

d. Interest and Skill in Subject Areas

Students answered questions about subjects liked best in college, and how they expected to perform in some of these subjects as they were taught in medical school.

Biological sciences were liked most by 61% of students. Relatively more sensing types expressed this preference (1.16***). When asked about skills in biological sciences, extraverts said their skills were high (1.15***).

Physical sciences were rated as most liked by 21% of students. As would be expected, the logical and ingenious NT types (1.27**) and the academic IN types (1.25**) liked physical sciences. The sympathetic and friendly SF types were unlikely to like physical sciences best (0.61**) and more likely to like them least (1.61**). They were also unlikely to say they had high skills in chemistry (0.63***), while the science-minded NT types called their skill in chemistry high (1.33***).

Mathematics was the best-liked subject in college for 4% of students and least-liked for 19%. INFJ (2.32**) and INTJ (1.98*) significantly liked mathematics, and the pragmatic ES types did not (0.41*). The tough-minded --TJ types were unlikely to classify mathematics as their least-liked subject (0.78**). When rating themselves for skill in mathematics, 8% said they were below average and 24% said their skills were high. The four --TP types said their skills in mathematics were low (1.45*); this is an interesting finding in a group expected to be good in this subject area. The four -S-P types also were overrepresented in the group claiming low mathematics skills (1.69*). Intuitive types were more likely to say their skills are high (1.11**).

Social and behavioral sciences were liked best in college by 7% of students, and least by 10%. This area was attractive to intuitives, (1.19*), feeling types (1.23*) and perceptive types (1.49***); judging types were more likely to say they disliked the social and behavioral sciences (1.19**), particularly the tough-minded --TJ's (1.32**). Of the 14% who claimed skills in behavioral science, the EN--'s were overrepresented (1.47***) and there were few IS-- types (0.52***).

Humanities was the area most liked by 8% of students and least by 17%. Intuitives were more likely to like humanities (1.25%%) and sensing types to rate this area least liked (1.32***). Feeling types were more likely to like humanities (1.20*) and thinking types did not (1.16**). The perceptive types were also more likely to say humanities was most liked (1.42***). Humanities is a field which was especially attractive to INFP (2.19***) and INTP (1.88**). The practical -STJ types were more likely to say humanities was their least-liked area (ISTJ 1.68*** and ESTJ 1.46*). These preferences have been found in college samples.

Administration was the best-liked field of only one student, and 26% classified administrative sciences as their least-liked college subject. Sensing types were less likely to dislike administrative sciences (0.75***). In other fields, sensing types are significantly attracted to colleges of business, particularly the -S-J types. In the Myers Longitudinal Medical Study follow-up, intuitives moved into administrative posts in the decade between 1963 and 1973. It may well be that intuitives are drawn into administration later in their careers when they find that innovation requires the ability to manage social systems.

Foreign languages were liked best by 1% of students and least by 19%. There were no significant type differences in likes or dislikes.

e. Preferred Hours of Study

The preferred time for study was morning for the -N-J types (1.19*) but not for the active ES-- students (0.68**) or the practical and matter of fact -ST- types (0.76*). Afternoon was preferred by the I--P types (1.36*) but only ISTP (1.49) and INFP (1.75*) had ratios greater than 1.00. Evening was preferred by sensing types (1.13*), particularly the -S-J's (1.20**) and the ES--'s (1.31**). The independent -N-P types preferred studying in the night (1.32**).

f. Other Characteristics

The questionnaire asks about other characteristics which may or may not be related to problems in medical school. Since introverts are more likely to look within for the source of difficulties, they were expected to report more problems related to personality characteristics than the extraverts who seek answers in the world outside themselves.

Muscular coordination: Fifty-six percent of students said they were well-coordinated in sports, with extraverts more likely to make this claim (1.15***). Five percent of students said they were clumsy in fine movements with their fingers. There was a slight tendency for the I--P types to call themselves clumsy (1.48*), but this did not include ISTP with a ratio in the other direction (0.88).

Handedness: Eighty-nine percent of students said they were right-handed and 11% left-handed. The only significant type differences were that the E--J types were overrepresented among left-handers (1.31*) and the -F-P types were over-represented among right-handers (1.04*).

Color blindness: Of the 49 students describing themselves as color blind, 15 of the 16 types were represented. The four --TP types were significantly over-represented (1.74*) in these first data we have seen on color blindness.

Birth order: Thirty-eight percent of students were oldest children in their families, 34% were in-between, 21% were youngest and 6% were only children. Only one significant difference was found, less than would be expected by chance. This sample does not confirm the findings of type differences in birth order reported in Auburn University freshmen by Grant (1965).

Blushing: Introverts (1.12**) and feeling types (1.14**) were more likely to say they blush easily. ISFJ (1.42*) and INFJ (1.51**) were more likely to report blushing, and INTP (0.58*) to deny doing so.

Flustered under stress: The two introverted feeling types (ISFP 2.99* and INFP 2.97*) were overrepresented in the small group of 58 students who said they were easily flustered under stress.

Worry: Introverts (1.13**) and feeling types (1.15**) were more likely to state they worried too much. Among the introverts, the I-T- types did not describe themselves as worriers.

Difficulty in talking to strangers: Introverts reported more difficulty (1.64***) and extraverts less difficulty (0.23***) in talking with strangers. These answers are consistent with other answers about interpersonal relations and need for skill training in meeting people.

History of life stress: Nine percent of students reported that they had had long illnesses, and 19% had experienced major surgery. The only type difference was that the gentle ISFP types were over-represented in both groups (2.51** and 1.66). Thirty-nine percent of students had experienced death of a loved one. The extraverted feeling types were over-represented in this group (1.25*) and the perceptive types were under-represented (0.90*). Eight percent of students reported engagements broken because of rejection by the other partner; Rejection was more likely to be reported by the intuitive types (1.20**), especially INFP (2.15***), ENFP (1.30), INTJ (1.40) and ENTJ (1.34). The active and realistic ES-- types were unlikely to report broken engagements because of rejection (0.52*).

These data have been presented in some detail, since they are not otherwise available, and since they touch many issues of interest in health education. Classification of responses to health questionnaires by type is a comparatively simple task. It would be useful to compare similar data across schools and across fields of health, so as to determine the type preferences with greatest stability and predictability.

2. Selection of Independent Study Programs in Medicine

Intuitive types in New Mexico students were attracted to independent study, unless they had high anxiety (Otis, 1972).

Type distributions were made available for the University of Illinois traditional program and independent scholars by Charles Johns and Agnes Rezler. Similar distributions were made available for Ohio State programs by the late John Camiscioni. In theory, introverts, intuitive types, and perceptive types should be attracted by independent study programs. The percentages for the two schools are shown in Figure 6 below:

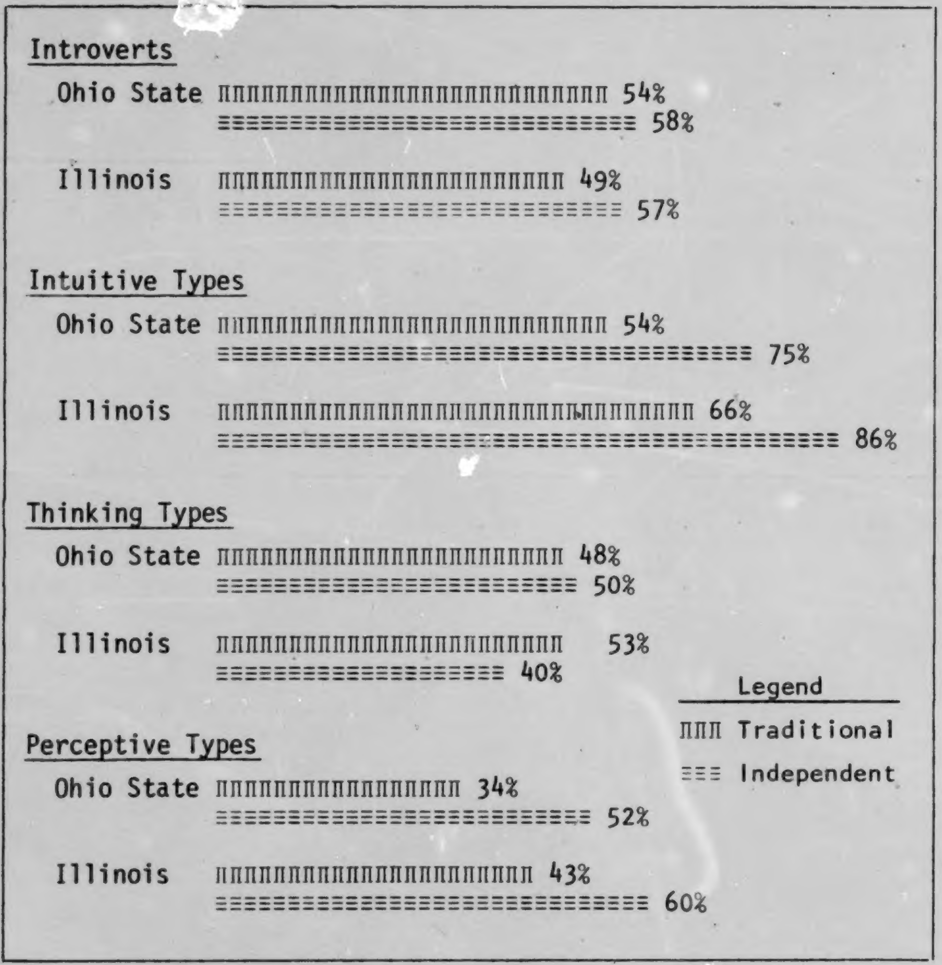

Figure 6
Comparison of Traditional and Independent Study Programs
in Two Medical Schools

The 765 traditional and 438 independent study students at Ohio State significantly different in intuition (*p* .001) and perception (*p* .001) and the 222 traditional and 72 independent study students from Illinois are significantly different in intuition (*p* .001) and perception (*p* .05). These data are interesting in light of the fact that medical schools attract large numbers of students who prefer to learn in their own way. Thus, even the traditional programs have large numbers of the independent N and P types. At Ohio State, the -N-P students are 25% of those in the traditional program, and 43% of those in independent study. At Illinois, the -N-P students are 36% of those in traditional and 57% in independent programs.

Griesen (1972) in an early study of the Ohio State Pilot Medical School or independent study program. He compared 32 students admitted to the program, 30 interested but not admitted (Control Group 1) and 32 students from the regular program (Control Group 2). Students interested in independent study had significantly higher MBTI continuous scores for intuition and perception. Griesen was interested in knowing whether students who were interested in independent study but were not accepted would differ from students who chose the traditional curriculum. Both groups had comparable academic achievement scores. For those who wanted independent study but were assigned to the traditional curriculum, a stronger preference for the judging attitude (J) was associated with higher achievement scores. A preference for J has been found in other studies of academic achievement. Griesen tentatively concludes from the MBTI and other test data that "..academic success in a group instruction curriculum for a student who would have preferred independent study is partially a function of his ability to 'conform to the system', and 'not make trouble'"(p. 124). Griesen also noted that the students of Control Group 1 were less enthusiastic about their medical school environment than the students who were in curricula they had chosen.

Griesen also comments on a measure of breadth of interests in the three groups. In type theory, E, N and P would be associated with breadth of interests, and thus the independent group should have scored higher on this measure. The scores of the independent study students were higher, despite the fact that much more effort was made in the traditional program to foster diversity of interests. In type terms, Ohio State's model tried to foster diversity of interests in the students for whom such diversity is less likely to occur naturally—a laudable goal.

Griesen's data report only mean continuous scores for the four MBTI preferences, so no comparisons of types can be made. The data reported on the preceding page, however, show that over the years the Ohio State independent study program has continued to attract -N-P types.

The University of Washington instituted a program similar to that of Ohio State University in 1971 (Shannon, Dohner, Cutler, Evans & Thomas, 1976). The mean continuous scores for the MBTI were not significantly different between the Lecture-Discussion and the Independent-Study students in either the class of 1972 or 1973. No data are given on the type distributions of students nor is there as yet available a type distribution of the large sample of MBTI data for this school. The data given show higher mean scores for I, N, F and J in both classes.

While the evidence shows that independent study programs are relatively more attractive to intuitive and perceptive types, a trend on the sensing side of the type distribution is worth watching. The IS-J types choose independent study more than other sensing types. It is characteristic of these thorough students to want to go deeply into issues, one at a time, and to complete one task before beginning another.

As samples increase, it should be valuable to make intensive studies of study habits and success rates of the types who frequently choose, and who seldom choose, independent study programs.

3. The New Mexico Longitudinal Studies

A large body of information which can be related to MBTI differences was collected in Albuquerque, New Mexico, by Otis, Graham, Quenk, Heffron, Mitchel and others as part of a Longitudinal Study of the new medical school of the University of New Mexico, from 1969 through 1976. Each year from pre-entry through postgraduate education the research team collected data from students. Three questionnaires were given each year— (a) The Career Rating and Preference Inventory, (b) the Student Faculty Role Questionnaire and (c) the Physician Ideology Questionnaire. The MBTI and 16 PF were given on entry and again before graduation. Academic achievement data were entered throughout training.

The New Mexico team also participated in evaluation of experiential projects of the American Medical Student Association Foundation. Data from these studies are presented where relevant in the following sections. Dr. Naomi Quenk prepared a summary of these studies for our contract team, and Dr. Gerald Otis analyzed trends over time for this contract. While most of the data to be described has been presented elsewhere, some of the findings are reported here for the first time.

a. Types of Medical Students

An early study of the New Mexico team (Otis, 1972) generated a typology of medical students based on cluster analysis of scores of 166 medical students on the 16 PF and MBTI. Five relatively independent second-order dimensions were obtained. These were (1) Rule-Bound vs. Unconstrained, defined mainly by the MBTI JP scale, (2) Extraversion vs. Introversion, defined mainly by the MBTI EI scale and the 16 PF H scale (Venturesome-Shy), (3) Feeling vs. Thinking, defined mainly by the MBTI TF scale and the 16 PF I scale (Tender minded-Tough minded) (4) Divergence vs. Conventinality of Thought, defined mainly by the MBTI SN scale, and (5) Anxiety vs. Adjustment, defined only by the 16 PF (scales C Ego Strength, L Trusting-suspicious, O Placid-apprehensive, Q_3 Self concept and Q_4Relaxed-tense). Factor scores were computed for each student using the BC-TRY O-typing procedure. In effect, this procedure creates "types" based on the ways factor scores cluster. Thus the types are empirically, not theoretically determined. The characteristics of each type were then examined in relation to a wide range of academic and attitude measures collected in the longitudinal study.

Tables 60 to 72 are a very brief summary of the data from this early study. They are designed to give the reader a picture of how types can differ over a wide range of attitudes and behaviors. To create these tables, the students in each O-type were identified along with their MBTI type. The small type tables at the upper right of each O-type table show the MBTI types selected by the clustering program. Note that the number in any one of the O-types is small. Despite this fact, there are enough significant findings in other variables to characterize each O-type meaningfully.

These data give useful information on differences between students of similar types who report different levels of anxiety. The very anxious students in O-type 8 differ from the moderately anxious students with similar MBTI preferences in O-types 1 and 2.

It is also interesting to notice that the empirical groupings clustered students into theoretically meaningful MBTI groups. Thus, O-type 4 brought together the tough-minded --TJ types, O-types 3 and 9 clustered the enthusiastic and insightful -NF- types, O-type 5 clustered the thoughtful realistic IS-- types, and O-type 10 grouped the sympathetic and friendly -SF- types.

While these are preliminary data, the methodology is interesting, and the characteristics associated with each O-type are in most cases consistent with Jung's theory.

b. Values and Attitudes at Different Stages of Medical Training

Each year the students at New Mexico answered 184 items of the SFRQ (Student Faculty Role Questionnaire), an instrument developed from role theory for the New Mexico studies. The first 93 questions of the SFRQ ask the students how important to them are a wide variety of behaviors or attitudes of faculty or other students. The last 91 questions go over the same ground, but this time ask the students to give their perceptions of the actual attitudes or behaviors of the faculty or other students. Answers are recorded on 5-point scales.

Factor analysis of SFRQ scores yielded sixteen factors, three related to Educational Goals (Psychosocial Orientation, Academic Orientation, and Personal Development), two related to External Relations (Faculty Professional Activity and Faculty Respectfulness), five related to Internal Instrumentality (Traditional Student Role, Teaching Efficiency, Faculty Accommodation, Faculty Openness and Structure), five related to Solidarity (Informal Relations, Faculty Socioemotional Role, Student-Faculty Camaraderie, Student-Faculty Cooperation, and Recognition of Student Accomplishment) and one related to Division of Responsibility (Division of Influence).

When factor scores were related to MBTI types, a very large number of significant differences were found. There were many more type differences in values than in actual perceptions, as might be expected.

Table 60
MBTI Types in Medical Student Object Type #1: DISILLUSIONED IDEALISTS

Taken from Otis, Gerald D. Types of Medical Students, NIH Contract 71-4066, 1972. Table shows MBTI types of University of New Mexico medical students clustered through BC-TRY Object-Typing procedure. Descriptions of the characteristics of Type #1 abstracted from pages 69-75 of the full report.

ISTJ	ISFJ	INFJ	INTJ
ISTP	ISFP	INFP ●●●	INTP ●
ESTP	ESFP	ENFP ●●●●●	ENTP ●●
ESTJ	ESFJ	ENFJ	ENTJ

Number of Students in Type #1: 11 (8%)

Mean Factor Scores for Clusters

I Rule Bound	34.87	Low
II Extraversion	52.49	Average
III Feeling	56.46	Moderately High
IV Intuition	59.14	High
V Anxiety	58.38	Moderately High

Average Homogeneity .87

ACADEMIC Undergraduate GPA highest of any type, but also high within-group variability. MCAT tends to be above average, with V, GI and Sci. high, and Q low. In the first year of medical school, overall success is higher (*p* .04), especially in Medical Biology (*p* .01), but by the end of the second year, they are below average in success (*p* .02). Average National Board scores, below what would be expected from MCAT scores.

LEARNING Do not like faculty-led group discussions (*p* .07). Do not espouse "ideal student" role nor value faculty accommodation to students (*p*.01).

ORIENTATION Humanistic. Value physician's ability to treat emotional and social problems of patients (*p* .001) and to explore these aspects with health care team or social agencies (*p* .06). Do not place much importance on physical control of patient care, nor bedside manner.

SPECIALTY Interested in Internal Medicine (*p* .04); not interested in Radiology (*p* .05). Average interest in referral specialties and below average interest in surgical specialties and institutional practice.

LEISURE Spend more time in structured recreation (*p* .01) and individual or solitary activity (*p*.001); spend less time in family recreation (*p*.01).

SUMMARY The members of Type 1 might be termed "disillusioned idealists." They seem to be capable students who enter medical school expecting a good deal of freedom and "outlets" for personal growth and human relatedness. After an initial spurt of enthusiasm in the first year, they become disenchanted and earn poorer evaluations than would be expected from their abilities. The amount of subjective distress (anxiety, depression, resentment, etc.) they experience is greater than that of other types. They seem to be headed toward Internal Medicine as a specialty.

Table 61
MBTI Types in Medical Student Object Type #2: LONERS

Taken from Otis, Gerald D. Types of Medical Students, NIH Contract 71-4066, 1972. Table shows MBTI types of University of New Mexico medical students clustered through BC-TRY Object-Typing procedure. Descriptions of the characteristics of Type #2 abstracted from pages 75-80 of the full report.

ISTJ	ISFJ	INFJ	INTJ
ISTP	ISFP	INFP ●●●●●	INTP ●●●●●
ESTP	ESFP	ENFP	ENTP
ESTJ	ESFJ	ENFJ	ENTJ

Number of Students in Type #2: 10 (7%)

Mean Factor Scores for Clusters

I Rule Bound	37.76	Low
II Extraversion	34.23	Low
III Feeling	52.93	Average
IV Intuition	57.97	Moderately High
V Anxiety	56.00	Moderately High

Average Homogeneity .76

ACADEMIC Undergraduate GPA below average. On MCAT, above average on Q (*p* .09) and Sci. (*p*.06) and below average on G.I. (*p* .08). In medical school, achieve average grades, except for lower Clinical Science in year 1 (*p* .003). Average on National Boards.

LEARNING Want to learn on their own. Prefer independent study (*P* .02), clinical rounds and conferences (*P* .02) and tutorials (*P* .04). Do not value the "ideal student" role (*p* .01).

ORIENTATION While not exclusively "disease-oriented", they tend to place less emphasis than other students on physician's ability to establish empathy and rapport (*p* .05).

SPECIALTY This is the only type with below-average interest in every specialty. They are not taken with any of the alternatives open to them. They particularly do not like Obstetrics and Gynecology (*p*.04) and Family or General Practice (*p* .06).

LEISURE Use of leisure not significantly different from that of peers, but tend to spend more of leisure in solitary activities, or in task-oriented (civic, church or social) activities.

SUMMARY Type 2 students might be called "loners." They seem to prefer to learn on their own, don't expect much or perceive much of value in what is offered by faculty or other students, and they shy away from the demands of social interaction. Basically intellectually curious, they seem more concerned with the content and meaning of their work than with the impression they are making. They appear to feel inadequate in interpersonal skills, and "solve" their problem of inadequacy by deciding that performance in interpersonal situations is unimportant. Professionally, they do not seem to have found a niche for themselves.

Table 62
MBTI Types in Medical Student Object Type #3: PEOPLE-ORIENTED PRACTITIONERS

Taken from Otis, Gerald D. Types of Medical Students, NIH Contract 71-4066, 1972. Table shows MBTI types of University of New Mexico medical students clustered through BC-TRY Object-Typing procedure. Descriptions of the characteristics of Type #3 abstracted from pages 80-84 of the full report.

ISTJ	ISFJ	INFJ	INTJ
ISFT	ISFP	INFP ●●●●●	INTP
ESTP	ESFP	ENFP ●●●	ENTP
ESTJ	ESFJ	ENFJ	ENTJ

Number of Students in Type #3: 8 (6%)

Mean Factor Scores for Clusters

I	Rule Bound	35.83	Low
II	Extraversion	52.51	Average
III	Feeling	68.03	High
IV	Intuition	59.21	High
V	Anxiety	50.48	Average

Average Homogeneity: .85

ACADEMIC Typical of their peers in undergraduate GPA and MCAT. MCAT Q and Sci. tended to be higher than V and G.I. In first year of medical school, overall grades lower than average, primarily because of low scores in Medical Biology I. Clinical Science grades in the first two years of medical school rated satisfactory. On National Boards were close to average for the sample, a little lower in Biochemistry (*p* .07).

LEARNING Significantly dislike student-led didactic lectures (*p* .01), faculty-led didactic lectures (*p* .08) and student-led group discussions (*p* .02). Don't value the "ideal student" role. Want more psychosocial emphasis in the curriculum.

ORIENTATION Value skills of the "psychological healer" (*p* .06) and put less value on "disease orientation" (*p* .07) and on the physician as an authority figure (*p* .10).

SPECIALTY Interested in Family Medicine/General Practice (*p* .02). Not inclined toward Pathology (*p* .01), Pediatrics (*p* .06), Orthopedics (*p* .05) or Dermatology (*p* .06).

LEISURE Spend more time with their peers in solitary activity (*p* .01) and informal outings with friends (*p* .01). They spend less time in task-oriented group activity (civic, church or political) (*p* .01) or in professionally oriented groups (*p* .08).

SUMMARY Type #3 students appear to be "people-oriented" but not in the same way as the humanistic, and possibly crusading, students of Type #1. They do not appear to be exceptionally bright or scholarly, nor are they discontented with their lot. Warm and friendly relationships with others seem to be rewarding in and of themselves. They tend to seek occupational settings and kinds of role behavior which would make such interaction realizable.

Table 63
MBTI Types in Medical Student Object Type #4: BIOLOGICAL ACADEMICS

Taken from Otis, Gerald D. Types of Medical Students, NIH Contract 71-4066, 1972. Table shows MBTI types of University of New Mexico medical students, clustered through BC-TRY Object-Typing procedure. Descriptions of the characteristics of Type #4 abstracted from pages 84-88 of the full report.

ISTJ ●●●●	ISFJ	INFJ	INTJ ●●●●
ISTP ●●	ISFP	INFP	INTP
ESTP	ESFP	ENFP	ENTP
ESTJ ●●●	ESFJ	ENFJ	ENTJ ●●●

Number of Students in Type #4 16 (11%)

Mean Factor Scores for Clusters

I	Rule Bound	55.94	Moderately High
II	Extraversion	43.40	Moderately Low
III	Feeling	35.17	Low
IV	Intuition	43.33	Moderately Low
V	Anxiety	54.74	Average

Average Homogeneity .79

ACADEMIC Average in undergraduate GPA and MCAT. Above average in the first year of medical school (*p* .04). Second-highest of types in National Board scores, with significantly higher scores on Physiology (*p* .03), Microbiology (*p* .03) and Pharmacology (*p* .03). Tend also to be high on Anatomy (*p* .06) and Biochemistry (*p* .07).

LEARNING No significant difference from the average. [This is possibly because Type #4 has approximately equal numbers of sensing and intuitive types. They may cancel each other out, since SN is the preference most closely associated with academic achievement.]

ORIENTATION Do not value the "psychological healer" role (*p* .02) Tend to think it less important that patients be told their diagnosis (*p* .07). See less value in the physician being community-oriented, in taking responsibility for exchanging information with patients, or in being "psychosocially" oriented. They tend to hold a "disease orientation" to medicine, and value the physician's being an authority.

SPECIALTY Interested in Academic-Research careers (*p* .03); inclined toward the basic medical sciences (*p* .04) and educational settings (*p* .01). Tend not to prefer working in public institutions (*p* .07) nor in solo private practice (*p* .07).

LEISURE Tend to stay away from task-oriented groups (church, civic, political etc.) (*p* .09).

SUMMARY The interests and abilities of Type #3 students seem to lie in acquisition of concrete facts and details. This orientation is augmented by a desire for "freedom of movement" or opportunities for personal expression. They would prefer to understand the facts of disease, uncomplicated by the social or psychological aspects of the case, or by the personal reactions of the physician. Their career inclinations appear to be toward the technical facets of medicine: basic science and research.

Table 64
MBTI Types in Medical Student Object Type #5: INTROVERTED PRAGMATISTS

Taken from Otis, Gerald D. Types of Medical Students, NIH Contract 71-4066, 1972. Table shows the MBTI types of University of New Mexico medical students clustered through BC-TRY Object-Typing procedure. Descriptions of the characteristics of Type #5 abstracted from pages 88-91 of the full report.

ISTJ ●●●	ISFJ ●	INFJ	INTJ
ISTP ●●●	ISFP ●●●	INFP	INTP
ESTP ●	ESFP	ENFP	ENTP
ESTJ	ESFJ	ENFJ	ENTJ

Number of Students in Type #5: 11 (9%)

Mean Factor Scores for Clusters

I Rule Bound	54.66	Moderately High
II Extraversion	40.41	Low
III Feeling	49.51	Average
IV Intuition	37.21	Low
V Anxiety	52.04	Average

Average Homogeneity .78

ACADEMIC Slightly but nonsignificantly above average in undergraduate grades. MCAT scores about average, with a tendency for V and G.I. to be higher and Q lower. In the first year of medical school, slightly above average (*p* .05), but only average at year 2. At mean of group for National Boards.

LEARNING Dislike student-led discussions (*p* .04), and like faculty-led discussions (*p* .02). On entering medical school, significantly disliked the idea of independent study (*p* .001). Tend to see the faculty as the ones who have the facts, which are the important things to be learned. Tend to want more structure from the faculty.

ORIENTATION Tend to be "disease-oriented" (*p* .02) and to value the physician's role as an authority (*p* .08). Less likely to be community-oriented (*p* .03) or psychosocially oriented (*p* .01). Place less value than classmates on informing patient of diagnosis (*p* .03).

SPECIALTY Tend to be oriented toward referral specialties (*p* .02) and institutional practice (*p* .02). Less attracted to primary care (*p* .02) and academic medicine (*p* .09). Attracted to Dermatology (*p* .04) and Pathology (*p* .07) and tend to avoid Internal Medicine (*p* .02), Obstetrics and Gynecology (*p* .06) and Community Medicine (*p* .10). Less inclined toward the basic medical sciences (*p* .02) and not inclined toward solo private practice (*p* .04).

LEISURE Spend less time than classmates on informal outings with friends (*p* .01).

SUMMARY The greater valuation on the practical facts in the Type #5 students gives them an even more tough-minded image than the students in Type #4. They seem to invest themselves in academic life only to the degree of "getting by." Their career preferences seem to be toward areas that are not too complex, don't involve a lot of dealing with people, and are concerned with sensory facts.

Table 65
MBTI Types in Medical Student Object Type #6: COMPLACENT EXTRAVERTS

Taken from Otis, Gerald D. Types of Medical Students. NIH Contract 71-4066, 1972. Table shows the MBTI types of University of New Mexico medical students clustered through BC-TRY Object-Typing procedures. Descriptions of the characteristics of Type #6 abstracted from pages 92-95 of the full report.

ISTJ	ISFJ	INFJ	INTJ
ISTP	ISFP	INFP ●	INTP ●
ESTP	ESFP ●	ENFP ●	ENTP ●●
ESTJ ●●	ESFJ	ENFJ	ENTJ ●

Number of Students in Type #6: 9 (6%)

Mean Factor Scores for Clusters

I Rule Bound	47.42	Average
II Extraversion	57.34	Moderately High
III Feeling	47.67	Average
IV Intuition	49.04	Average
V Anxiety	36.39	Low

Average Homogeneity .91

ACADEMIC Similar to total sample in undergraduate GPA. Lowest in MCAT (*p* .10), especially Q and Sci. However, in medical school they tend to be higher in Clinical Science in the first year (*p* .09) and are above average in the second year (*p* .09). They are similar to the total sample on National Boards.

LEARNING Tend to like teaching situations where they can have an active role, such as faculty-led discussions (*p* .07), student-led didactic lectures (*p* .06) and clinical rounds (*p* .08). Do not value the "ideal student" role.

ORIENTATION Typical of the group as a whole, except for a tendency not to hold a "disease orientation" toward medicine.

SPECIALTY Interested in Radiology (.003), Internal Medicine (*p* .08) and Dermatology (*p* .09). Inclined toward working in private institutions but not in public institutions (*p* .06).

LEISURE Spend more time in structured recreational groups (*p* .05).

SUMMARY This group might be termed the "complacent extraverts." While not exceptionally capable intellectually, they earn better than average evaluations in their first two years of medical school, perhaps because of their social and outgoing manner and desire to participate. They appear to be more satisfied with student-faculty relations than other students. Career inclincations look somewhat diverse. The hypothesis is that they prefer settings that provide regular hours and allow them freedom for extra-professional activities.

Table 66
MBTI Types of Medical Student Object Type #7: IDEAL STUDENTS

Taken from Otis, Gerald D. Types of Medical Students, NIH Contract 71-4066, 1972. Table shows MBTI types of the University of New Mexico medical students clustered through BC-TRY Object-Typing procedure. Descriptions of the characteristics of Type #7 abstracted from pages 95-99 of the full report.

ISTJ	ISFJ	INFJ	INTJ ●●●●●●
ISTP	ISFP	INFP ●	INTP ●●●●●
ESTP	ESFP	ENFP ●●	ENTP
ESTJ ●	ESFJ	ENFJ ●●	ENTJ ●

Number of Students in Type #7 18 (13%)

Mean Factor Scores for Clusters

I	Rule Bound	49.91	Average
II	Extraversion	47.40	Average
III	Feeling	45.85	Slightly Low
IV	Intuition	52.66	Average
V	Anxiety	49.57	Average

Average Homogeneity .86

ACADEMIC Average in undergraduate GPA and MCAT. Significantly above average in first year of medical school (p .01) with high grades in Clinical Science (p .03) and Medical Biology (p .001). Highest of all the types on National Board Scores (Anatomy p .01, Physiology p .003, Biochemistry p .01 and Pharmacology p .003).

LEARNING Like independent study more than any other type (p .08). Tend to like faculty-led group discussions (p .07).

ORIENTATION No significant trends. Closest to "average student" of all types.

SPECIALTY Interested in academic medicine (p .02), research (p .01), basic medical sciences (p .001). Not interested in Surgery (p .05), Anesthesiology (p .05) or Radiology (p .09). Not interested in group practice (p .03).

LEISURE Appear to report spending most of their type studying. Spend significantly less time than other types on task-oriented groups (p .02), individual activity (p .03) or informal outings with friends (p .02). Also lower on structured recreational groups (p .05) and professional groups (p .08). May spend a little more time with their families (p .10).

SUMMARY This group is "average" in terms of measurement on all five personality dimensions, but might be better called "ideal students", based on their success in the first two years of medical school. They get good grades, do exceptionally well on the National Boards, and don't need structure in student roles, nor does the faculty need to accommodate to them. They are more satisfied than their peers with the encouragement and support they receive from the medical faculty. Their career preferences for academic medicine reflect their success in basic sciences, but they are staying away from the technology-oriented specialties.

Table 67
MBTI Types of Medical Student Object Type #8: ANXIOUS AVOIDERS

Taken from Otis, Gerald D. Types of Medical Students, NIH Contract 71-4066, 1972. Table shows MBTI types of the University of New Mexico medical students clustered through BC-TRY Object-Typing procedure. Descriptionsof the characeristics of Type #8 abstracted from pages 99-103 of the full report.

ISTJ	ISFJ	INFJ	INTJ
ISTP	ISFP ●	INFP ●●●●	INTP
ESTP	ESFP	ENFP	ENTP ●●
ESTJ	ESFJ	ENFJ	ENTJ

Number of Students in Type #8 7 (5%)

Mean Factor Scores for Clusters

I	Rule Bound	44.43	Moderately Low
II	Extraversion	47.84	Average
III	Feeling	53.71	Average
IV	Intuition	50.70	Average
V	Anxiety	72.97	High

Average Homogeneity .84

ACADEMIC No significant differences from total group, but undergraduate GPA fourth highest of all the types. MCAT Q higher, V and G.I. lower. Grades in first year of medical school are satisfactory, but in second year they are lower in Clinical Science (p .06), Medical Biology (p .08) and in overall success (p .07). Average on National Boards.

LEARNING Do not like independent study (p .02) nor student-led group discussions (p .03), probably because of anxiety generated.

ORIENTATION Are more "disease-oriented" than other types (p .007). Inclined to let nurse rather than doctor handle communication with patients (p .05).

SPECIALTY Preferences are toward Ophthalmology (p .03), and Otorhinolaryngology (p .02). Strongly avoiding Obstetrics and Gynecology (p .001) Epidemiology and Community Medicine (p .04), Pediatrics (p .02) and Internal Medicine (p .001). Tend not to be interested in Family Practice (p .08), Anesthesiology (p .08) and Pathology (p .06)

LEISURE Spend significantly less time in structured recreational groups (p .001) and solitary activity (p .03). Spend more time with informal outings with friends (p .06).

SUMMARY These students appear to be "anxious avoiders" whose tendency to unfavorable self-characterizations are easily elicited by a number of situations and they wish to avoid these. In school, loneliness or anxiety at not being able to organize oneself may be submerged in frequent outings with friends. This strategy may take a toll on academic performance. They seem to project their anxiety on the faculty, seeing them as not orderly, well-organized or supportive. They prefer to deal with "disease" rather than problems of interpersonal communication and they avoid primary care.

Table 68
MBTI Types in Medical Student Object Type #9: PEOPLE-ORIENTED ENTHUSIASTS

Taken from Otis, Gerald D. Types of Medical Students, NIH Contract 71-4066, 1972. Table shows MBTI types of the University of New Mexico medical students clustered through BC-TRY Object-Typing procedure. Descriptions of the characteristics of Type #9 abstracted from pages 103-107 of the full report.

Number of Students in Type #9 17 (13%)

Mean Factor Scores for Clusters

I Rule Bound	53.24	Average
II Extraversion	52.67	Average
III Feeling	57.25	Moderately High
IV Intuition	57.70	Moderately High
V Anxiety	41.76	Low

Average Homogeneity .84

ISTJ	ISFJ	INFJ ●●	INTJ
ISTP	ISFP	INFP ●●●●	INTP
ESTP	ESFP	ENFP ●●●●	ENTP
ESTJ	ESFJ	ENFJ ●●●●●●	ENTJ ●

ACADEMIC Undergraduate GPA is average, but MCAT scores are high (V *p* .003; Q *p* .03; G.I. *p* .02 and Overall Average *p* .04). In the first year of medical school their grades in Clinical Science I are significantly low (*p* .003) but they rise to significantly high for Clinical Science II in year 2 (*p* .001). Their National Board scores are average, perhaps because their low anxiety is associated with motivation to "get by" rather than to excel.

LEARNING Seem to prefer face-to-face interaction with peers. Prefer student-led discussions (*p* .01) and dislike tutorials (*p* .08) and student-led didactic lectures (*p* .04). They value student enthusiasm (*p* .04) and wish faculty would give more structure and feedback (*p* .08).

ORIENTATION Place a high value on the physician's being able to create a warm and empathic relationship with the patient (*p* .09). Tend to give nurses more responsibility for housekeeping matters (*p* .09).

SPECIALTY Interested in primary care (*p* .02), and also Obstetrics and Gynecology (*p* .001), Epidemiology and Community Medicine (*p* .05) and Pathology (*p* .05). They are not interested in Dermatology (*p* .01) nor are they inclined toward the basic medical sciences (*p* .06). They are somewhat more interested in working in public institutions (*p* .09) and less interested in group private practice (*p* .05) or private institutions (*p* .07).

LEISURE Tend to spend more time in task-oriented groups (civic, church, political) (*p* .09) and less time in structured recreation (*p* .09) or family recreation (*p* .05).

SUMMARY These high-ability "people-oriented enthusiasts" do not seem motivated to use their abilities in the basic sciences. Warm and sensitive human relations are their forte, and they are attracted to primary care and to settings with opportunities for social service.

Table 69
MBTI Types in Medical Student Object Type #10: FIGURES IN THE COMMUNITY

Taken from Otis, Gerald D. Types of Medical Students, NIH Contract 71-4066, 1972. Table shows the MBTI types of University of New Mexico medical students clustered through BC-TRY Object-Typing procedure. Descriptions of the characteristics of Type #10 abstracted from pages 107-111 of the full report.

Number of Students in Type #10 6 (4%)

Mean Factor Scores for Clusters

I Rule Bound	53.10	Average
II Extraversion	55.34	Moderately High
III Feeling	61.92	High
IV Intuition	35.14	Low
V Anxiety	50.77	Average

Average Homogeneity .88

ISTJ	ISFJ ●	INFJ	INTJ
ISTP	ISFP	INFP	INTP
ESTP	ESFP ●●●	ENFP	ENTP
ESTJ	ESFJ ●●	ENFJ	ENTJ

ACADEMIC Average in undergraduate GPA and MCAT, with Q their best test and V significantly low (*p* .03). In first year of medical school were above average on Clinical Science I (*p* .02) but below on Medical Biology (*p* .07). Average on National Boards, except for low scores on Pharmacology (*p* .05).

LEARNING Like student-led lectures (*p* .03) and student-led group discussions (*p* .05).

ORIENTATION Tend not to like the "psychological healer" role (*p* .07). Approve giving nurse more responsibility for communication with patients (*p* .001) and for housekeeping matters (*p* .07).

SPECIALTY Prefer primary care (*p* .06) more than other Object-Types. Prefer Family Medicine and General Practice (*p* .02), Epidemiology-Community MedicinePublic Health (*p* .01), and group private practice (*p* .001). Not at all interested in working in educational settings (*p* .03).

LEISURE More time in task-oriented groups (civic, church or political (*p* .04). SPend less time in professional groups (*p* .05).

SUMMARY Appear to have in mind becoming "figures in the community" with many social contacts and "surface" relationships of a pleasant nature. A career in medicine may be only a vehicle for these aspirations since they don't seem to want to assume roles presumably important to patient care, even though they do score high on primary care specialties. They are not as involved in professional groups as would expected in extraverted, people-oriented individuals.

Table 70
MBTI Types in Medical Student Object Type #11: MANAGERS

Taken from Otis, Gerald D. Types of Medical Students, NIH Contract 71-4066, 1972. Table shows the MBTI types of University of New Mexico medical students clustered through BC-TRY Object-Typing procedure. Descriptions of the characteristics of Type #11 abstracted from pages 111-116 of the full report.

ISTJ	ISFJ	INFJ	INTJ ●
ISTP	ISFP	INFP	INTP
ESTP	ESFP	ENFP	ENTP ●
ESTJ	ESFJ	ENFJ ●●	ENTJ ●●●●● ●●●●

Number of Students in Type #11 13 (9%)

Mean Factor Scores for Clusters		
I Rule Bound	57.30	Moderately High
II Extraversion	63.50	High
III Feeling	43.73	Moderately Low
IV Intuition	57.43	Moderately High
V Anxiety	46.13	Average

Average Homogeneity .86

ACADEMIC Undergraduate GPA tends to be above average and MCAT below average. [These are directions expected from type theory, but differences are not statistically significant.] In medical school, scored lower in Clinical Science in first year (*p* .05) and higher in Medical Biology in second year (*p* .02). National Board scores average.

LEARNING Prefer independent study (*p* .06). Value student enthusiasm, interest, order and productivity (*p* .02). Think there is too much psychosocial emphasis in the curriculum (*p* .05).

OREINTATION Believe physician should inform patient fully about diagnosis (*p* .001). Tend to favor a "disease orientation" and to value use of community agencies and allied health personnel (*p* .08).

SPECIALTY Interested in Psychiatry (*p* .05) and Obstetrics and Gynecology (*p* .08). Favor work in private institutions (*p* .02) or group private practice (*p* .02). In general score higher on Institutional Practice Career cluster (*p* .06).

LEISURE Prefer structured recreational activities (*p* .08).

SUMMARY These students appear to be "managers", i.e. they like to organize activities and direct people. While favoring use of community resources, and believing it is important to tell patients their diagnoses, still they seem to want to keep some distance from patient involvement. They seem to be seeking those aspects of medicine which let them "direct" the care through others. Wat at first appears to be "tender-minded" is better understood as coming under the rubric of "order and efficiency."

Table 71
MBTI Types in Medical Student Object Type #12: EXTRAVERTED PRAGMATISTS

Taken from Otis, Gerald D., Types of Medical Students, NIH Contract 71-4066, 1972. Table shows the MBTI types of University of New Mexico medical students clustered through BC-TRY Object-Sorting procedure. Descriptions of the characteristics of Type #12 abstracted from pages 115-119 of the full report.

ISTJ	ISFJ ●●	INFJ	INTJ
ISTP	ISFP	INFP	INTP
ESTP ●	ESFP	ENFP	ENTP
ESTJ ●●●●●	ESFJ ●●●●	ENFJ	ENTJ

Number of Students in Type #12 12 (9%)

Mean Factor Scores for Clusters		
I Rule Bound	63.01	High
II Extraversion	59.39	High
III Feeling	48.48	Average
IV Intuition	37.04	Low
V Anxiety	42.27	Low

Average Homogeneity .82

ACADEMIC Undergraduate GPA is lowest of all the types. Below average MCAT except slightly above average on Q). In medical school they do better than average on Clinical Science I (*p* .01) and worse than average on Medical Biology II (*p* .03). They are the weakest of all 12 types on National Boards Part I, being lower on Physiology (*p* .01), Biochemistry (*p* .01), Microbiology (*p* .01) and Pharmacology (*p* .01); tend also to be lower on Anatomy (*p* .06).

LEARNING Like faculty-led (*p* .03) and student-led (*p* .01) didactic lectures. Dislike faculty-led group discussions (*p* .02) and clinical rounds and conferences (*p* .03). Value "Ideal Student" role.

ORIENTATION Value the physician as a person of authority (*p* .03). Tend to be "disease-oriented" (*p* .09). Place less importance than do other students on physician's telling patient his diagnosis (*p* .08).

SPECIALTY Prefer Family Medicine and General Practice (*p* .04) and Surgery (*p* .06). Not interested in medical research or medical teaching (*p* .01). Not interested in the referral specialties, especially Ophthalmology (*p* .01) or Otorhinolaryngology (*p* .05). Tend not to be interested in Epidemiology-Community Health (*p* .05) or Institutional practice (*p* .05), or work in public institutions (*p* .03).

LEISURE More time in task-oriented groups (civic, church, political) (*p* .03), in professional groups (*p* .001) and in family recreation (*p* .02).

SUMMARY These students are practical and action-oriented. They seem to want to step into the stereotyped physician roles, and are "traditional" in career preference and in their active use of leisure time. They like traditional teaching and are content with medical school.

A few examples of the data on changes over the course of medical school are described below. They make clear what many educators have long known—faculty cannot please all the students all of the time.

(1) Academic Orientation. Figure 7 compares the mean scores on the Academic Orientation factor scale for two types, ENTJ, an executive and science-minded type, and ISFJ, a thorough and patient-oriented type.

High scores on this scale are related to values in becoming theoretically oriented, developing research skills, and becoming a good teacher. Low scores are related to values toward becoming a good clinician, gaining patient experience, and being oriented to practical matters.

The solid lines reflect values. There are wide differences throughout training with ENTJ more academically oriented, and ISFJ valuing clinical medicine. The two types are in relative agreement about the attitudes of other students and the faculty. The dotted lines show that both ENTJ and ISFJ see the school as valuing academic as opposed to clinical medical activities. One can predict that the environment of ENTJ is more comfortable, since they hold values which they perceive as shared. The ISFJ hold values for developing clinical skills which they perceive, rightly or wrongly, are not shared by other students and the faculty.

(2) Traditional Student Role. Figure 8 compares the two feeling types with intuition as auxiliary, ENFJ and INFP, in their values and perceptions of Traditional Student Roles. The items defining this factor relate to the degree to which students should really invest themselves in the work of a course, should seriously listen to the faculty, should be enthusiastic about learning and show interest in course material, should show academic scholarship, and should be punctual, orderly and productive.

Both ENFJ and INFP entered medical school with a high value for the traditional student role; both lost enthusiasm during medical school, regaining some interest in the fourth year. Despite these losses, ENFJ's reported themselves as enthusiastic students for all stages. This pattern is especially interesting, in light of the facts that ENFJ ranked first in the Myers' longitudinal data at time of graduation, and also ranked first in the Ohio State data on clinical performance. Enthusiastic students appeal to faculty.

It is disturbing to note the sharp loss of enthusiasm in the INFP's who are an academically-oriented group. At worst, they may find that medical school extingushes their interest in learning. A more optimistic alternative explanation is that their values involve a more independent and less traditional student role. The dotted lines show that ENFJ sees other students as less enthusiastic, and INFP sees other students as more studious than they are themselves.

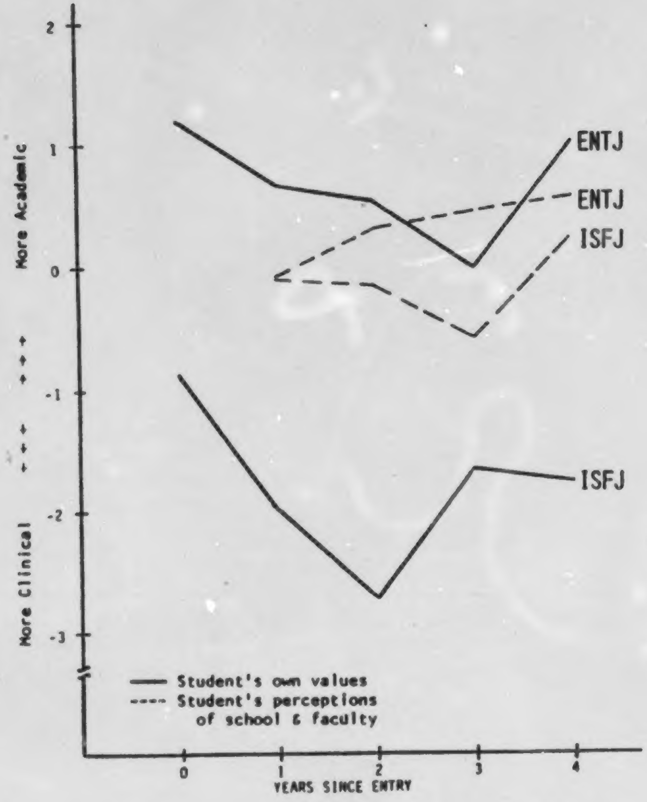

Figure 7
Mean Scores on the ACADEMIC ORIENTATION scale for ISFJ and ENTJ.

(Data provided by Gerald D. Otis, Ph.D. from the Longitudinal Medical Study of the University of New Mexico.)

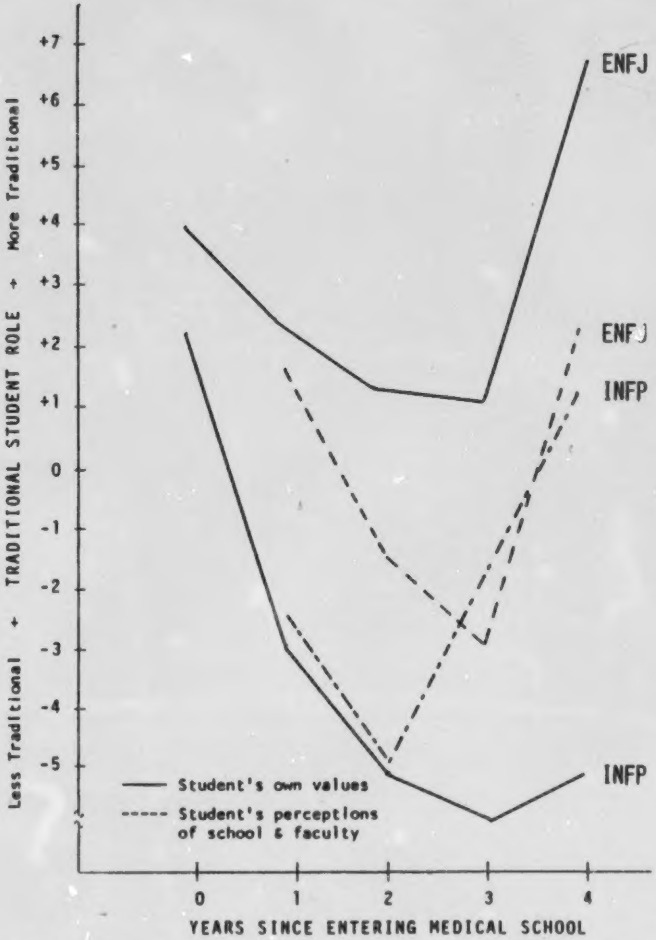

Figure 8
Mean Scores on TRADITIONAL STUDENT ROLE Scales for ENFJ and INFP.

(Data provided by Gerald D. Otis, Ph.D. from the Longitudinal Medical Study of the University of New Mexico.)

(3) Faculty Socioemotional Role. Figure 9 shows a comparison of groups differing on EI and TF on the factor entitled Faculty Socioemotional Role, defined as the degree to which faculty should go out of their way to be helpful to students, to be friendly and supportive, to help them to work out problems, and to help students understand themselves.

In type theory, extraversion and feeling would be expected to relate to contacts with faculty (E) and concern and care (F).

The most noteworthy finding in this figure is that the types with neither extraversion nor feeling, the I-T- group, score lower than other types throughout medical school. In other analyses, not presented in this report, the I-T- types were also significantly lower than their classmates in their values for psychosocial orientation to clinical issues, for faculty listening to student suggestions about teaching, for students and faculty making efforts to cooperate with one another, for fostering informal relationships between students and faculty, for students' being recognized as individuals by the faculty, for the faculty being respectful to patients and to students, and for the faculty to teach efficiently. These students seem to wish to learn medicine their own way, and to evaluate their accomplishments relatively independently of what their peers and teachers think.

(4) Faculty Respectfulness. Figure 10 compares INFP and INTJ in their values and perceptions of Faculty Respectfulness. This factor is related to the importance of faculty being good role models in being considerate of patients, requesting their permission and explaining procedures. The same factor includes questions relating to faculty respect for students, respecting their interests and being patient in giving explanations.

The tough-minded INTJ's enter medical school with a low priority for Faculty Respectfulness; they see greater value as their education progresses, and consistently see their faculty as paying more attention to this factor than they do themselves. The idealistic and perfectionistic INFP's, on the other hand, enter medical school with strong values toward respecting others, and see the faculty as consistently falling short, particularly in the clinical years.

(5) Division of Influence. Figure 11 shows a variable concerned with relative influence of the faculty, as opposed to the students, in determining educational goals and methods. Here the comparisons are with JP and TF. All four groups tend to want faculty to structure learning early in medical school, and again in the last year. The tough-minded and executive TJ types want structure and, except for year 2, see the faculty as not providing it. Their opposites, the FP's, see more faculty control than they like.

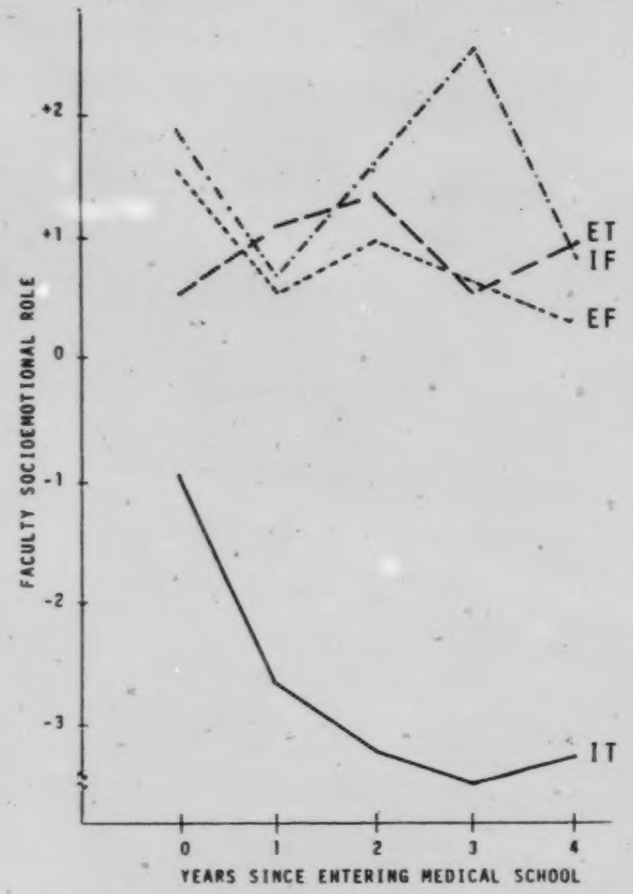

Figure 9
Mean Scores on FACULTY SOCIOEMOTIONAL ROLE SCALE for IT, IF, EF and ET.

(Data provided by Gerald D. Otis, Ph.D. from the Longitudinal Medical Study of the University of New Mexico.)

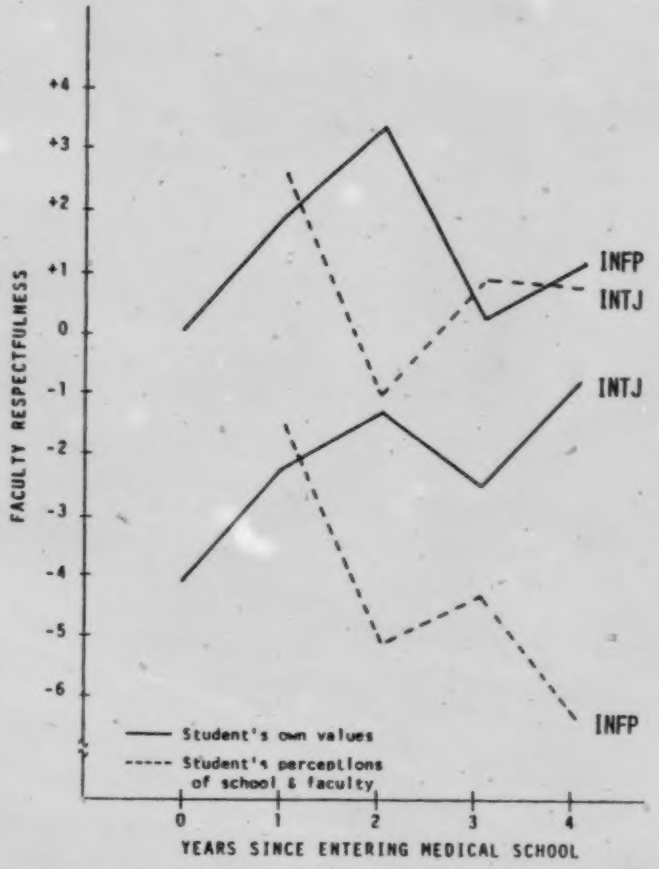

Figure 10
Mean scores on the FACULTY RESPECTFULNESS scales for INFP and INIJ.

(Data provided by Gerald D. Otis, Ph.D. from the Longitudinal Medical Study of the University of New Mexico.)

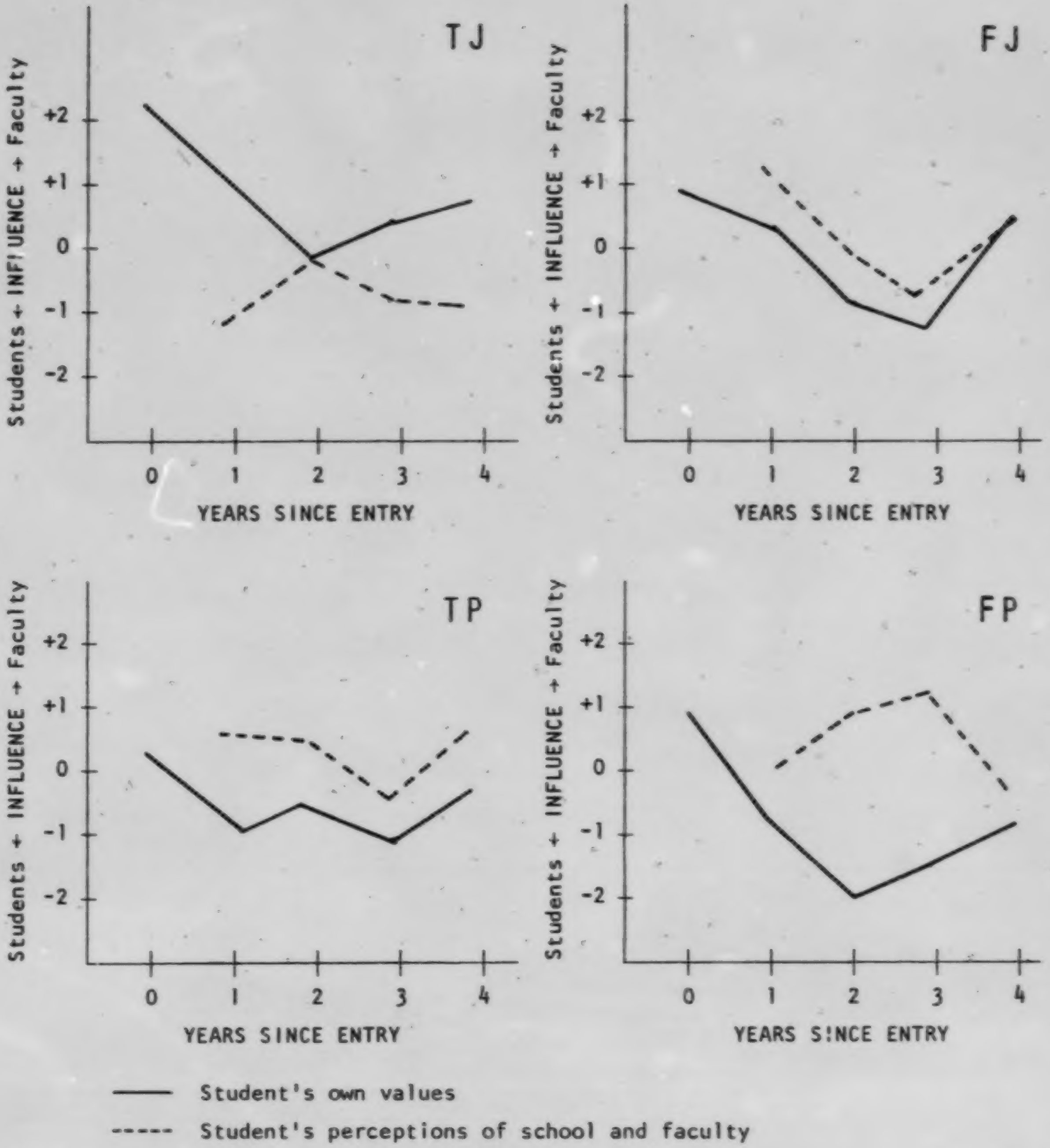

Figure 11
Mean Scores for Values and Perceptions of DIVISION OF INFLUENCE for TJ, TP, FJ & FP.

(Data provided by Gerald D. Otis, Ph.D. from the Longitudinal Medical Study of the University of New Mexico.)

(6) Personal Development. Figure 12 shows how the four MBTI combinations of perception and judgment, ST, SF, NF and NT report their values and their assessment of the actual situation in the Personal Development factor. Questions in this factor are concerned with the importance for students to find purpose and meaning in their professional roles, to learn to understand themselves and the complexities of the world, and to appreciate the beauty in life.

The humanistic NF types place a high value on personal development throughout medical school, and tend to see the faculty and other students as less concerned with these issues. The other groupings show less interest in personal development issues, and perceive the faculty and other students as more concerned with them than they are themselves.

There are many other unanalyzed trends in the New Mexico data, and there must also be comparable data in other longitudinal studies. The New Mexico investigators stress that their findings need to be replicated in other settings and with larger samples. Even at this early stage, however, it is clear that different types of students have quite different attitudes and perceptions of the same medical school experience.

The fact that the pattern of attitudes differs by type, and also the pattern of changes over time, has important implications for research of health professionals over the course of training. Type relationships which are clear at one stage may be obscured at another.

The SFRQ was designed for studying medical students, but could be used in other health professions with only minor modifications. Since a discrepancy between what one values and what one perceives to exist in one's school can be a source of motivation or discouragement, more studies relating type differences in values and perceptions over the course of training in health could be extremely useful in understanding how to individualize and improve training in the health careers.

4. Experiential Learning and Teamwork

The New Mexico investigators assisted in the evaluation of four AMSA Foundation preceptorship projects.

In 1973 medical students in the Medical Education in Community Orientation project (MECO) were given the MBTI along with questionnaires to evaluate their experiences. The 428 participants included 53% introverts, 63% intuitive types, 57% feeling types and 57% judging types. The combinations of perception and judgment showed 18% ST, 19% SF, 37% NF and 26% NT.

Sensing types rated the MECO experience as most beneficial; those rating the experience less beneficial were more likely to be thinking types and EN-P types. Thinking types said they did learn about health system delivery.

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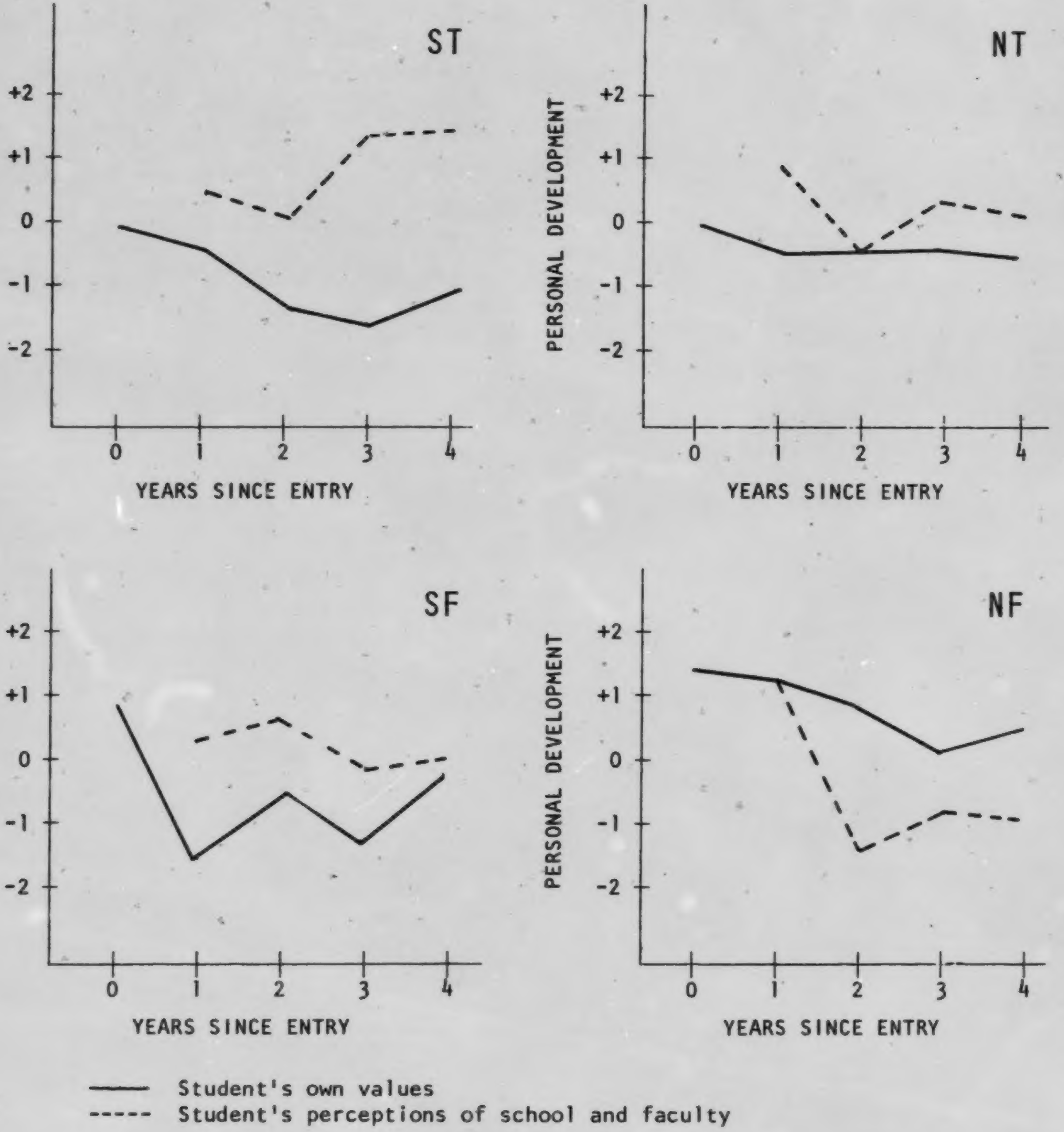

Figure 12
Mean Scores for Values and Perceptions of Importance of PERSONAL DEVELOPMENT for MBTI Combinations of Perception and Judgment. (Data from G. D. Otis.)

A second project asked all past participants in AMSA Foundation preceptorship projects to look back on their experiences in light of later career choices. The career decisions of this study will be discussed in the following section. Significantly more IS types (ratio 1.40***) participated in the retrospective study. The researchers were not sure whether to interpret this fact as evidence that experiential training is more attractive to IS-- types, or as evidence that these dependable people are more likely to answer research questionnaires.

There were no sex differences in type distributions of the 590 in the retrospective study. Marital status differences were found, with single students more likely to prefer N, F and P. The researchers noted that N, F and P in their data make later career decisions, and wondered if they make later decisions in other areas of life as well.

When asked to rate program characteristics, extraverts were more likely than introverts to say the preceptorships gave them a good role model. This finding is theoretically interesting, since extraverts should be more likely to look outside themselves for guides to behavior. Feeling types said the programs made them more aware of their strengths and weaknesses in interacting with patients, and --FP types also said the preceptorships helped them clarify their values and goals as physicians.

The MBTI has been used for several years in the rural health team project of the AMSA Foundation. At the time of final debriefing, students are given an opportunity to reflect on the type differences within their team, and how these have affected the group's experience. These debriefings which were originally instituted as part of the evaluation research of the health team project have become a valuable end in themselves. Students frequently report that an understanding of how type differences have contributed to misunderstandings among team members have helped them come to terms with some of the negative aspects of their experiences.

The analyses of the effects of type differences in teams are complex and evaluators are working out methodological problems. In some preliminary data collected by the Institute for Health Team Development, evaluators found that blind predictions based on MBTI types (including CAPT research of individual differences within types) correlated significantly with measures of team effectiveness. Data are beginning to emerge showing that TF differences are related to task vs. interpersonal emphasis in teams; that SN differences are associated with the amount of innovation (N) or implementation (S) activity, and that EI and JP are related to amount of discussion and listening to one another (E's talk more and P's listen more).

5. Other Findings of Type Differences in Learning Experiences

Johnson (1975) in his interesting study of a physician assistant program from an anthropological perspective noted that friendship cliques were of similar types.

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Worthen (1975) developed a questionnaire to ask about preferences for learning in medical school. Of 247 students who had taken the MBTI, only 35 answered the questionnaire, and few significant correlations were found. Predicted significant relationships were: (a) Preference of J types for programmed instruction, audiotapes, slide tapes and filmstrips, videotapes, and case conferences; (b) preference of E and J for seminar discussions; (c) preference of E's for doing something to make a difference in the world; also for learning experiences in which material is presented orally; (d) preference of I's for chance to practice procedures; also for careers with time for leisure; (e) preference of N's for demonstrating what they have learned, and for understanding principles in new material to be learned.

Rezler & French (1975) described a sample of 139 students in 6 programs in associated medical sciences; the students also answered a Learning Preferences Inventory prepared by the authors. Their report does not report on the learning preferences of the MBTI types, however.

A number of faculty in different professions described efforts to use type differences in planning teaching and in assigning students to preceptorships. One of the most ambitious efforts is being conducted with student nurses at St. Petersburg Junior College in Florida, by Anastasia Hartley and Rose Mary Ammons. The project staff heard many enthusiastic reports and interesting clinical observations, but we found no carefully controlled studies of type differences in teaching or learning in health professions. We appear to be at a stage of increasing interest and hypothesis generation, but have not reached the stage of large scale empirical testing.

This section has reviewed some of the evidence for type differences in learning to become ahealth professional. Even at this early stage of research in the area, several facts seem clear.

Students of different types enter training with skills and interests typical of their type. They differ in their attitudes toward the learning environment, and have characteristic changes as they progress through training.

Faculties must therefore deal with the fact that behaviors which are valued by some types are devalued by others in the same class. Faculty assistance and guidance may provide too much structure for some students, and too little for others.

Much work remains to be done to identify the specifics needed to provide the optimum learning experiences for all types, but the data collected thus far seem to show that students and faculties together can make educated guesses as to productive ways of improving learning environments.

It seems reasonable to assume that this is an area where gains will be more rapid with cooperation across disciplines. Similar type differences in learning styles are likely to appear in many different settings.

E. Health Professions Students Choose Their Careers

This section is concerned with type differences in decisions to enter careers in health from pre-selection until graduation from training. It builds on the earlier report of type differences in applying for and being admitted to study in fields of health described in Part II, and in initial aptitude described in Part III B.

1. The Myers Longitudinal Medical Study

Myers' research in following up her sample of 5355 medical students of the 1950's remains one of the largest samples of health professionals tested early in training and followed up into their professional careers. The findings of the two career followup studies will be reported in the part of this Monograph which deals with practitioners.

To anticipate the findings of this predictive study, all types were found in each specialty; each specialty attracted more of some types and fewer of others; these patterns of attraction were in the main consistent with expectations derived from Jung's theory.

The Myers study has no data on attitude changes during medical school nor reasons for choices of specialties or types of practice.

2. The Decision to Become a Physician

The Ohio State Medical School data on the Entering Resources Questionnaire includes a number of questions about the decision to enter medicine. (These are the data supplied by Larry Sachs and further analyzed by CAPT, as described earlier in this report.)

a. Earliest Age Considering Medicine

There were no significant type differences among the 293 students who reported that they first thought of becoming a physician before the age of 10. Of the 249 in the age 10-13 group, the E--J types were significantly over-represented (ratio 1.21**). In the 14-15 group there were significantly more IS types (ratio 1.23*) and ENTP's (ratio 1.65**) among the 259 students. Of the 275 in the group who first considered medicine at ages 16-17, the -S-P types were over-represented (1.42*). In the last group who did not begin to think of medicine until 18 or later (264 of the students), the academic IN types (ratio 1.22**) and the spontaneous introverts (I--P types, ratio 1.23*) were found. At this stage, the active and realistic ES-- types were under-represented, having made their decisions several years earlier.

Otis found that at a later stage the ES-- types were early deciders about specialties and types of practice, and the IN-- types were latest in making decisions of all the types. It appears that E, S and J are associated with earlier decisions than I, N and P.

b. Age of Decision to Study Medicine

Fourteen percent of the Ohio State sample decided to study medicine before the age of fourteen. The E--J types (ratio 1.34*) and the --FJ types (ratio 1.33*) were significantly over-represented in these students making early career decisions. Feeling types (1.19*) were more likely to be in the early group than thinking types (.80*).

Seven percent of students made the decision at ages 14-15 and again the types dedicated to concern for others were over-represented. There were more extraverts (1.27*) and sensing types (1.37**) leading to more -SF- types (1.54**), -S-J types (1.48***) and ES types (1.67**). The more academic IN-- types were underrepresented (.78*).

Twenty-one percent of students reported making their decision at ages 16 or 17. No types were over-represented at these ages, but the following were under-represented— --FP (.78*), IN-- (.82*).

During the college years from ages 18-21 677 students or 50% of the sample, made the decision to study medicine. The groups who had made their decision earlier were significantly under-represented (E .93*, EN-- .90* and E--J .90*), and their counterparts were found, the introverts (1.06*), especially the I--P types (1.13*), the IN-- types (1.14***) and the -NF- types (1.08*).

Finally, 189 students, or 14%, reported making their decision later than the age of 21; these were more likely to be the science-minded -NT- types (1.33**) and the tough-minded --TJ's (1.19*).

Early decisions were more likely to be found among the action-oriented extraverts, the realistic sensing types, and the decisive judging types. Later decisions were found in introverts and perceptive types, with the scientifically-minded students last to decide. Thinking types (1.22*) were also more likely to have entered medical school three or more years following college graduation, while feeling types (1.02*), especially the decisive --FJ's (1.03*) were somewhat more likely to enter within 0-2 years from graduation.

c. Doubts About the Decision to Enter Medicine

As would be expected, the decisive extraverts were least likely to report doubts (1.22***) while the perceptive introverts were more likely to report both serious doubts (1.49**) and slight doubts (1.21***). The specific findings are shown below:

(1) Serious Doubts were reported by 99 students, or 7.4%. Over-represented were N (1.16*), P (1.39**), I--P (1.49**), -N-P (1.43**), --FP (1.66**), IN-- (1.28*) and INFP (1.86**) and ENFP (1.67*).

(2) Slight Doubts were reported by 583 students or 43.3%. The types over-represented were I (1.13***), F (1.09**), I--P (1.21***)

IN (1.21***) and types INFP (1.20*) and INTP (1.34**).

(3) No Doubt was reported by extraverts (1.16***), thinking types (1.10***) and judging types (1.07***) among the 661 or 49.1% of students in this category. Significant groupings of students with no doubt about their career choices were E--J (1.22***), -ST- (1.14**), -S-J (1.11**), --TJ (1.18***), ES-- (1.14*) and EN (1.17***).

There is a clear tendency for extraverts, feeling types and judging types to make earlier decisions at each stage of the process, and to feel more confident of the decisions they have made.

d. Major Influences in Making Medical Career Decisions

In theory, three MBTI preferences, E, S and F should be associated with influence of others, especially family, in making important decisions. Extraverts should give more eight to environmental influences outside themselves in making decisions; sensing types should rely on the familiar and known experiences; and feeling types should be aware of and influenced by the values of others.

Realistic extraverts, the ES-- types, more often reported that a major influence in their decision to enter medicine came from their fathers (1.27*), their mothers (1.37**), other relatives (1.70*), as well as physicians known previously (1.26*) and medical faculty (1.60*). Similarly, the sympathetic and friendly -SF- types reported major influences by fathers (1.34**) and by mothers (1.26*).

Intuitive types were significantly more likely to report that their fathers had no major influence on their decisions (1.09**), nor did their mothers (1.12***) nor other relatives (1.09*). Among intuitives, the extraverts reported significantly more influence from physicians they had known, and the introverts significantly more often denied influence from this source.

In an interesting question about the influence of books, movies and plays, the practical and matter-of-fact -ST- types strongly rejected these symbolic experiences as influencing them (.49*) but the communications-oriented -NF- groups said they had been affected by books, movies or plays (1.49**).

In short, the early-deciding E, S and J types were also more influenced by those close to them in making their decisions to enter medical school. The later-deciding and theoretically more self-sufficient I's and N's reported less influence from families and physicians they had known, but more influence from their reading and the media. Across all categories, feeling typese were more likely to report influences from others and thinking types to deny these influences. These trends are in line with type theory.

e. Alternatives to Medicine

Answers of the 1345 Ohio State Medical Students to a question about career choices if they had not gone to medical school appear below:

Other Fields of Health

Allied Health   Number 70 or 5.20%   No significant ratios

Dentistry   Number 99 or 7.36%
T 1.25*, --TJ 1.39**. E--J 1.31* but not -NF- .66*, -N-P .64* nor IN-- .67*.

Nursing   Number 42 or 3.12%
F 1.38**

Optometry   Number 13 or 0.97% No significant ratios

Pharmacy   Number 36 or 2.67% No significant ratios

Veterinary Medicine   Number 87 or 6.47%
--FP 1.41*, ENFP 1.75*

Occupations outside of Health

Business   Number 37 or 2.75*
-SP- 2.00* but not IN-- .52*

Engineering   Number 150 or 11.15%
T 1.16*, --TJ 1.27* and -ST- 1.36* but not --FJ .77*.

Law   Number 76 or 5.65%   No significant ratios

Ministry   Number 47 or 3.49%
F 1.40** and J 1.23**, --FJ 1.75*** but not --TP .26*

Scientific Research   Number 285 or 21.19%
I 1.14*, T 1.13*, IN-- 1.19*, -NT- 1.26* but not -SF- .67*.

Teaching in High School   Number 83 or 6.17%
I 1.19*, -SF- 1.80**, ISFJ 1.71*, ESFJ 1.93*, INTJ 1.80*, but not -ST- .45** or EN-- .66*.

Teaching in College or a University   Number 161 or 11.97%
I 1.14*, N 1.21***, IN 1.52*** but not IS-- .62**.

These alternative choices are consistent with both type theory and the data for the fields in question. It appears from these preliminary data that students not admitted to medical school find another career which is related to interests of their type.

More precise information on career choices and their alternatives should be available when findings of the Program in Medical Sciences at Florida State and Florida Agricultural and Mechanical Universities have been reported. Under direction of Dr. Paul R. Elliott, PIMS has included the MBTI in its extensive test battery from the beginning. The program is designed to follow up students admitted to health fields and those who must choose alternative careers.

3. Choice of Specialty in Medical School

Most longitudinal studies in medicine have collected data on specialty choice at more than one point between entry and graduation. It should be possible to learn from these studies whether students move toward specialties which call on the interests and skills of their types as they move through medical school.

The data noted in the preceding section suggest that there are type differences in the timing, influences, and certainty of choice for entering medical school. It is reasonable to suggest that there will continue to be type differences in the ways students go about making career decisions during and after medical school.

A special problem in studying type differences in medical specialties comes from the fact that there are a large number of specialties and that each specialty must be analyzed for 16 types, unequally distributed. Large samples will be needed if we are to understand in any depth the complexity of decisions, even for one type in one specialty.

As an example, 4953 physicians from Myers' original sample of 5355 students were located in 1973. Of these, only 53 were allergists. Among the allergists, there were two and a half times as many ESFJ's as expected, based on the total sample. However, the impressive ratio of 2.53** is based on only 9 allergists,

Myers' sample is still the largest sample of type differences in medical specialties. The potential of obtaining adequate data on today's students would be very great if the schools using the MBTI at present could pool their data on this important topic.

a. Pilot Study of Changes in Specialty Choice of Ohio State Students

In 1974 John Camiscioni assembled comparisons of first and fourth year specialty choices for 185 medical students at Ohio State University. Tables 72 and 73 show the numbers and the selection ratios at entry, and Tables 74 and 75 show the numbers and ratios in the fourth year of medical school. The groupings of specialties were the result of earlier factor analyses. In these studies, anesthesiology, pathology and radiology formed a single grouping, and thus they are grouped in the table. In the Myers sample at follow-up in 1973, radiology had attracted more --TP types (1.33**), anesthesiology more IS-- types (1.75***) and pathology more IN-- types (1.63***). It appears that this grouping may obscure SN differences that would be found if the three specialties were looked at separately. Camiscioni also grouped ophthalmology, orthopedics, otolaryngology and urology; these specialties differed in the Myers' study but tended to attract sensing types.

Even in these very small samples one can see a trend toward primary care and surgery in sensing types; toward psychiatry in intuitives, and toward anesthesiology-pathology-radiology in introverts.

The foregoing tables present the data both in absolute numbers and in selection ratios, as a demonstration of the fact that rankings of specialties change depending on the method of presentation.

b. Comparison of Medical, Surgical and Other Specialties

In 1974 Camiscioni made available a further analysis of 325 entering students and 580 graduating students electing Medical Specialties, Surgical Specialties, and Other Specialties.

In theory, one would expect Medical Specialties to be relatively more attractive to I and N, and Surgical Specialties to E, S and T. In the Myers sample, Medical Specialties had attracted N (1.09***) and Surgical Specialties had attracted E (1.09***), S (1.12***), especially E--P (1.13***), ES-- (1.16***), -ST- (1.13***), -SF- (1.12**), -S-P (1.20***). Myers expected the "skill-in-action" ES-- types to find Surgical Specialties attractive.

In the Ohio State samples, 62% were planning to enter Medical Specialties at entry, compared to 57% at graduation. On EI, the change was from 51% E to 53% I (ratio I .98 to I 1.02). On SN, the change was from 57% N to 58% N (ratio 1.00 to 1.00). On TF, the change was from 53% F to 52% F (ratio 1.03 to 1.05). On JP, the change was from 68% J to 64% J (ratio 1.02 to 1.01). There were no significant type differences are entry, and only one at graduation—I--J types were attracted to Medical Specialties (1.11*).

Surgical Specialties attracted 28% of students at entry, and 29% at graduation. On EI, the change was from 50% E to 51% E (ratio 1.00 to 1.07). On SN, the change was from 52% N to 53% N; however, relatively more sensing types were attracted to Surgical Specialties, with ratios for S of 1.11 changing to 1.13. On TF, the change was from 51% F to 58% T (ratios for T being 1.01 to 1.16*). On JP, the change was from 66% J to 69% J (ratios 1.00 to 1.09). There was a significant change toward -ST- (1.39**) and E--J (1.26*) in choice of Surgical Specialties.

Other Specialties attracted 10% of entering students and 15% of graduates. On EI, Other Specialties changed from 55% I to 56% I (ratio 1.09 to 1.08). On SN, the change was from 70% N to 70% N (ratios 1.22 to 1.19*). On TF, the change was from 55% T to 56% F (the ratios for F being .88 to 1.12). On JP, the change was from 58% J to 51% P (ratios for P being 1.26 to 1.39**. There were no significant type differences at entry, but at graduation Other Specialties had attracted significant numbers of I--P types (1.53**), and IN-- types (1.39*). These are types often found in Psychiatry, one of the Other Specialties.

These small samples add a little to the evidence from Myers' data, that there is a trend for medical students to move toward specialties which call on the interests and abilities of their types, as they gain more knowledge of what specialties require. Larry Sachs at Ohio State is now conducting more detailed analyses of these choices, on larger samples.

Table 72

CAPT 11-30-76

OHIO STATE MEDICAL STUDENTS

SPECIALTY CHOICES AT TIME OF ENTRY

SPECIALTIES RANKED BY

NUMBERS CHOOSING EACH SPECIALTY (TOTAL GROUP = 185)

ISTJ	N = 25	ISFJ	N = 10	INFJ	N = 12	INTJ	N = 9
Internal Medicine	5	Undecided	3	Undecided	5	Internal Medicine	2
Undecided	5	Internal Medicine	2	General Practice	2	Undecided	2
General Practice	4	Pediatrics	2	Surgery	2	General Practice	1
Pediatrics	3	General Practice	1	Internal Medicine	1	Pediatrics	1
Surgery	3	Ob-Gynecology	1	Pediatrics	1	Surgery	1
Anes.-Path.-Rad.	3	Surgery	1	Psychiatry	1	Surgical Spec.	1
Psychiatry	1	Psychiatry	0	Ob-Gyn	0	Anes.-Path.-Rad.	1
Surgical Spec.	1	Surgical Spec.	0	Surgical Spec.	0	Psychiatry	0
Ob.-Gynecology	0	Anes.-Path.-Rad.	0	Anes.-Path.-Rad	0	Ob.-Gynecology	0
ISTP	**N = 7**	**ISFP**	**N = 1**	**INFP**	**N = 17**	**INTP**	**N = 14**
Undecided	3	Undecided	1	General Practice	4	Pediatrics	5
General Practice	2			Psychiatry	4	Undecided	5
Ob.-Gynecology	1	All others	0	Undecided	4	Psychiatry	2
Surgery	1			Pediatrics	2	General Practice	1
Internal Medicine	0			Surgery	2	Surgery	1
Pediatrics	0			Ob-Gyn	1	Internal Medicine	0
Psychiatry	0			Internal Medicine	0	Ob-Gynecology	0
Surgical Spec.	0			Surgical Spec.	0	Surgical Spec.	0
Anes.-Path.-Rad.	0			Anes.-Path.-Rad.	0	Anes.-Path.-Rad.	0
ESTP	**N = 10**	**ESFP**	**N = 2**	**ENFP**	**N = 13**	**ENTP**	**N = 18**
Surgery	3	Surgery	2	Undecided	3	Pediatrics	6
Undecided	3			General Practice	2	Undecided	6
General Practice	2	All others	0	Internal Medicine	2	General Practice	3
Pediatrics	1			Psychiatry	2	Surgery	2
Anes.-Path.-Rad.	1			Surgery	2	Ob-Gynecology	1
Internal Medicine	0			Pediatrics	1	Internal Medicine	0
Psychiatry	0			Ob-Gyn	1	Psychiatry	0
Ob.-Gynecology	0			Surgical Spec.	0	Surgical Spec.	0
Surgical Spec.	0			Anes-Path.-Rad.	0	Anes.-Path.-Rad.	0
ESTJ	**N = 16**	**ESFJ**	**N = 7**	**ENFJ**	**N = 7**	**ENTJ**	**N = 17**
Undecided	5	General Practice	2	Ob.-Gyn	2	Undecided	11
General Practice	3	Undecided	2	General Practice	1	Surgery	3
Surgery	3	Internal Medicine	1	Internal Medicine	1	Internal Medicine	2
Pediatrics	2	Pediatrics	1	Pediatrics	1	Pediatrics	1
Internal Medicine	1	Ob-Gynecology	1	Surgery	1	General Practice	0
Ob.-Gynecology	1	Psychiatry	0	Undecided	1	Psychiatry	0
Surgical Spec.	1	Surgery	0	Psychiatry	0	Ob-Gynecology	0
Psychiatry	0	Surgical Spec.	0	Surgical Spec.	0	Surgical Spec.	0
Anes.-Path.-Rad.	0	Anes.-Path.-Rad.	0	Anes.-Path.-Rad.	0	Anes.-Path.-Rad.	0

Source of Data: John S. Camiscioni, Ohio State College of Medicine, November, 1974.
Surgical Specialties = Ophthalmology, Orthopedics, Otolaryngology, and Urology.

Table 73

CAPT 11-30-76

OHIO STATE MEDICAL STUDENTS

SPECIALTY CHOICES AT TIME OF ENTRY

SPECIALTIES RANKED BY

SELECTION RATIOS

ISTJ	N = 25	ISFJ	N = 10	INFJ	N = 12	INTJ	N = 9
Anes.-Path.-Rad.	4.29	Internal Med.	2.22	Psychiatry	1.67	Surgical Spec.	10.00
Surgical Spec.	2.50	Ob.-Gynec.	2.00	Undecided	1.28	Anes.-Path.-Rad.	5.00
Internal Med.	2.17	Pediatrics	1.33	General Prac.	1.11	Internal Med.	2.50
General Prac.	1.05	Undecided	.94	Surgery	1.11	Pediatrics	.77
Pediatrics	.83	General Prac.	.67	Internal Med.	.91	Surgery	.77
Surgery	.83	Surgery	.67	Pediatrics	.56	General Prac.	.71
Psychiatry	.71	Psychiatry	.00	Ob.-Gynec.	.00	Undecided	.69
Undecided	.62	Surgical Spec.	.00	Surgical Spec.	.00	Psychiatry	.00
Ob.-Gynec.	.00	Anes.-Path.-Rad.	.00	Anes.-Path.-Rad.	.00	Ob.-Gynec.	.00
ISTP	**N = 7**	**ISFP**	**N = 1**	**INFP**	**N = 17**	**INTP**	**N = 14**
Ob.-Gynec.	3.33	Undecided	3.33	Psychiatry	4.44	Pediatrics	2.50
General Prac.	1.82			General Prac.	1.54	Psychiatry	2.50
Undecided	1.36	All others	.00	Ob.-Gynec.	1.25	Undecided	1.11
Surgery	1.00			Pediatrics	.80	Surgery	.50
Internal Med.	.00			Surgery	.80	General Prac.	.48
Pediatrics	.00			Undecided	.74	Internal Med.	.00
Psychiatry	.00			Internal Med.	.00	Ob.-Gynec.	.00
Surgical Spec.	.00			Surgical Spec.	.00	Surgical Spec.	.00
Anes.-Path.-Rad.	.00			Anes.-Path.-Rad.	.00	Anes.-Path-Rad.	.00
ESTP	**N = 10**	**ESFP**	**N = 2**	**ENFP**	**N = 13**	**ENTP**	**N = 18**
Anes.-Path.-Rad.	3.33	Surgery	6.67	Psychiatry	2.86	Pediatrics	2.31
Surgery	2.00			Internal Med.	1.67	General Prac.	1.11
General Prac.	1.33	All others	.00	Ob.-Gynec.	1.67	Ob.-Gynec.	1.11
Undecided	.94			Surgery	1.05	Undecided	1.05
Pediatrics	.67			General Prac.	1.00	Surgery	.77
Internal Med.	.00			Undecided	.73	Internal Med.	.00
Psychiatry	.00			Pediatrics	.53	Psychiatry	.00
Ob.-Gynecology	.00			Surgical Spec.	.00	Surgical Spec.	.00
Surgical Spec.	.00			Anes.-Path.-Rad.	.00	Anes.-Path-Rad.	.00
ESTJ	**N = 16**	**ESFJ**	**N = 7**	**ENFJ**	**N = 7**	**ENTJ**	**N = 17**
Surgical Spec.	3.33	Ob.-Gynec.	3.33	Ob.-Gynec.	6.67	Undecided	2.04
Surgery	1.30	General Prac.	1.82	Internal Med.	1.67	Internal Med.	1.25
General Prac.	1.25	Internal Med.	1.67	Pediatrics	1.00	Surgery	1.20
Ob.-Gynecology	1.26	Pediatrics	1.00	Surgery	1.00	Pediatrics	.40
Undecided	.98	Undecided	.91	General Prac.	.91	General Prac.	.00
Pediatrics	.87	Psychiatry	.00	Undecided	.45	Psychiatry	.00
Internal Med.	.67	Surgery	.00	Psychiatry	.00	Ob.-Gynec.	.00
Psychiatry	.00	Surgical Spec.	.00	Surgical Sepe.	.00	Surgical Spec.	.00
Anes.-Path.-Rad.	.00	Anes.-Path.-Rad.	.00	Anes.-Path.-Rad.	.00	Anes.-Path-Rad.	.00

Source of Data: John S. Camiscioni, Ohio State College of Medicine, November, 1974.
Surgical Specialties = Ophthalmology, Orthopedics, Otolaryngology, & Urology.

Table 74

OHIO STATE MEDICAL STUDENTS

SPECIALTY CHOICES AT TIME OF GRADUATION

SPECIALTIES RANKED BY

NUMBERS CHOOSING EACH SPECIALTY (TOTAL GROUP = 185)

ISTJ N = 25		ISFJ N = 10		INFJ N = 12		INTJ N = 9	
General Practice	7	Internal Medicine	4	Internal Medicine	5	Internal Medicine	3
Internal Medicine	5	Pediatrics	2	Surgical Spec.	2	General Practice	2
Ob.-Gynecology	5	Surgical Spec.	2	General Practice	1	Pediatrics	1
Pediatrics	3	General Practice	1	Pediatrics	1	Psychiatry	1
Surgery	3	Surgery	1	Psychiatry	1	Surgical Spec.	1
Surgical Spec.	2	Psychiatry	0	Ob.-Gynecology	1	Anes.-Path.-Rad.	1
Psychiatry	0	Ob.-Gynecology	0	Surgery	1	Ob.-Gynecology	0
Anes.-Path.-Rad.	0	Anes.-Path.-Rad.	0	Anes.-Path.-Rad.	0	Surgery	0

ISTP N = 7		ISFP N = 1		INFP N = 17		INTP N = 14	
Internal Medicine	2	Internal Medicine	1	Internal Medicine	5	Psychiatry	4
Pediatrics	2			Surgical Spec.	3	General Practice	3
General Practice	1	All others	0	Anes.-Path.-Rad.	3	Internal Medicine	2
Surgical Spec.	1			Pediatrics	2	Anes.-Path.-Rad.	2
Anes.-Path.-Rad.	1			Psychiatry	2	Pediatrics	1
Psychiatry	0			General Practice	1	Ob.-Gynecology	1
Ob.-Gynecology	0			Surgery	1	Surgery	1
Surgery	0			Ob.-Gynecology	0	Surgical Spec.	0

ESTP N = 10		ESFP N = 2		ENFP N = 13		ENTP N = 18	
Internal Medicine	3	Internal Medicine	1	Internal Medicine	3	Internal Medicine	9
Surgery	3	Anes.-Path.-Rad.	1	Pediatrics	3	Pediatrics	2
General Practice	1			Psychiatry	2	Ob.-Gynecology	2
Pediatrics	1	All others	0	Surgery	2	General Practice	1
Surgical Spec.	1			General Practice	1	Psychiatry	1
Psychiatry	0			Ob.-Gynecology	1	Surgery	1
Ob.-Gynecology	1			Surgical Spec.	1	Surgical Spec.	1
Anes.-Path.-Rad.	0			Anes.-Path.-Rad.	0	Anes.-Path.-Rad.	1

ESTJ N = 16		ESFJ N = 7		ENFJ N = 7		ENTJ N = 17	
Internal Medicine	4	Internal Medicine	2	Internal Medicine	3	General Practice	4
Ob.-Gynecology	3	Surgical Spec.	2	Surgery	3	Internal Medicine	3
Surgery	3	General Practice	1	Psychiatry	1	Anes.-Path.-Rad.	3
General Practice	2	Surgery	1			Surgery	3
Pediatrics	2	Anes.-Path.-Rad.	1	All others	0	Surgical Spec.	2
Surgical Spec.	2	Pediatrics	0			Ob.-Gynecology	1
Psychiatry	0	Psychiatry	0			Psychiatry	1
Anes.-Path.-Rad	0	Ob.-Gynecology	0			Pediatrics	0

Source of Data: John S. Camiscioni, Ohio State College of Medicine, November, 1974.
Surgical specialties = Ophthalmology, Orthopedics, Otolaryngology and Urology.

Table 75

OHIO STATE MEDICAL STUDENTS

SPECIALTY CHOICES AT TIME OF GRADUATION

SPECIALTIES RANKED BY

SELECTION RATIOS

ISTJ N = 25		ISFJ N = 10		INFJ N = 12		INTJ N = 9	
Ob.-Gynec.	2.63	Pediatrics	1.82	Surgical Spec.	1.54	Psychiatry	1.67
General Prac.	2.00	Surgical Spec.	1.82	Internal Med.	1.39	General Prac.	1.54
Pediatrics	1.11	Internal Med.	1.33	Psychiatry	1.25	Anes.-Path.-Rad.	1.43
Surgery	.97	Surgery	.83	Ob.-Gynec.	1.11	Internal Med.	1.11
Surgical Spec.	.74	General Prac.	.71	Pediatrics	.77	Pediatrics	1.00
Internal Med.	.68	Psychiatry	.00	Surgery	.67	Surgical Spec.	1.00
Psychiatry	.00	Ob.-Gynec.	.00	General Prac.	.59	Ob.-Gynec.	.00
Anes.-Path.-Rad.	.00	Anes.-Path-Rad.	.00	Anes.-Path.-Rad.	.00	Surgery	.00

ISTP N = 7		ISFP N = 7		INFP N = 17		INTP N = 14	
Pediatrics	2.50	Internal Med.	3.33	Anes.-Path.-Rad.	2.31	Psychiatry	4.00
Anes.-Path.-Rad.	2.00			Psychiatry	1.67	Anes.-Path.-Rad.	1.82
Surgical Spec.	1.25	All others	.00	Surgical Spec.	1.67	General Prac.	1.50
General Prac.	1.00			Pediatrics	1.11	Ob.-Gynec.	.91
Internal Med.	.95			Internal Med.	.98	Pediatrics	.67
Psychiatry	.00			Surgery	.48	Surgery	.59
Ob.-Gynec.	.00			General Prac.	.42	Internal Med.	.48
Surgery	.00			Ob.-Gynec.	.00	Surgical Spec.	.00

ESTP N = 10		ESFP N = 2		ENFP N = 13		ENTP N = 18	
Surgery	2.50	Anes.-Path.-Rad.	5.00	Psychiatry	2.22	Internal Med.	1.67
Anes.-Path.-Rad.	1.25	Internal Med.	1.67	Pediatrics	2.14	Ob.-Gynec.	1.43
Internal Med.	1.00			Surgery	1.25	Pediatrics	1.05
Pediatrics	.91	All others	00	Ob.-Gynec.	1.00	Psychiatry	.77
Surgical Spec.	.91			Internal Med.	.77	Anes.-Path.-Rad.	.71
General Prac.	.71			Surgical Spec.	.71	Surgical Spec.	.53
Pediatrics	.00			General Prac.	.56	Surgery	.45
Psychiatry	.00			Anes.-Path.-Rad.	.00	General Prac.	.40

ESTJ N = 16		ESFJ N = 7		ENFJ N = 7		ENTJ N = 17	
Ob.-Gynec.	2.50	Surgical Spec.	2.50	Surgery	3.33	Anes.-Path.-Rad.	2.31
Surgery	1.50	Anes.-Path.-Rad.	2.00	Psychiatry	2.00	General Prac.	1.67
Pediatrics	1.18	Surgery	1.11	Internal Med.	1.43	Surgery	1.43
Surgical Spec.	1.18	General Prac.	1.00	General Prac.	.00	Surgical Spec.	1.11
General Prac.	.91	Internal Med.	.95	Pediatrics	.00	Psychiatry	.83
Internal Med.	.83	Pediatrics	.00	Ob.-Gynec.	.00	Ob.-Gynec.	.77
Psychiatry	.00	Psychiatry	.00	Surgical Spec.	.00	Internal Med.	.59
Anes.-Path.-Rad.	.00	Ob.-Gynec.	.00	Anes.-Path.-Rad.	.00	Pediatrics	.00

Source of Data: John S. Camiscioni, Ohio State College of Medicine, November, 1974.

Surgical Specialties = Ophthalmology, Orthopedics, Otolaryngology and Urology.

c. Specialty Choices of Illinois Freshman Medical Students

A sample of 189 freshman students from the Chicago, Urbana and Independent Scholar programs of the University of Illinois was collected by Agnes Rezler. No significant differences were found for types choosing family practice (*N* 64), general practice (*N* 29), internal medicine (*N* 32) or surgery (*N* 24). Pediatrics (*N* 27) was significantly attractive to -N-J types (1.6*) and not to ES-- types (.2*). Psychiatry (*N* 13) significantly attracted IN-- types (2.3*) and I--P types (2.0*). Rezler's data are consistent with those of Camiscioni in the fact that few differences are found among types in specialty choice during the freshman year. The fact that 12 of 13 freshmen considering psychiatry preferred intuition is consistent with other data that psychiatry and psychology are attractive to intuitive types.

4. Interest in Direct Patient Care in Medical School

"Direct patient care" is defined in different ways in different studies, but our interest was in seeing whether relatively more S, F and E students would express early interest in direct patient care.

a. Hahnemann Medical College Programs

In 1974 Gail Lasdon assembled data on type preferences for 157 medical students at Hahnemann Medical College, and 17 in the new Wilkes-Hahnemann program designed to train physicians for rural primary care.

The small group of Wilkes-Hahnemann students had significantly more extraverts (ratio 1.7**), particularly E--J (1.8*) and ES-- (2.0*) than were found in the traditional program in Philadelphia. The traditional program had 36% sensing types, the Wilkes program, 41%, a non-significant difference.

Sixty-one of the 157 traditional students expressed interest in primary care, defined as internal medicine, pediatrics, obstetrics and gynecology, and family medicine. Primary care was chosen significantly more often by sensing types (ratio 1.3**), especially the sympathetic and friendly -SF- types who, in theory, are expected to have the greatest interest in primary care (ratio 1.7***). In the sensing group, the IS-- (ratio 1.5*) and the -S-J (1.4*) were also attracted to primary care.

Twenty-nine students fell in a non-primary care or an undecided category. The science-minded -NT- types (ratio 1.9***) and the scholarly IN-- types (ratio 1.5*) were found in this category, while the E--J, -SF-, -S-J and ES-- groups were significantly unlikely to be in this category. The Hahnemann data, therefore, support the expectation that primary care is attractive to E, S and F students.

b. University of Illinois Medical Programs

Three programs of students were compared in 1974—72 Independent

Scholars (tested by Charles E. Johns), 254 Chicago and Urbana students (tested by Agnes G. Rezler) and 40 students from the Peoria Medical school (tested by J. D. Clemmons and Howard G. Getz). The Peoria program is designed with the greatest emphasis on primary care. In the three programs, there were 60% sensing types at Peoria, 34% in Chicago-Urbana, and 17% in the Independent Scholars. There were significant differences in the three programs, in the predicted direction.

A comparison was made of specialties with large amounts of patient contact (family medicine, general practice, internal medicine, obstetrics and gynecology, pediatrics and psychiatry) and secondary or tertiary specialties (anesthesiology, dermatology, neurology, ophthalmology, otolaryngology, pathology, radiology, surgery, urology and public health). Rezler compared the continuous scores of the four MBTI preferences for the two groupings, and found only one significant difference—secondary-tertiary specialties had a stronger preference for thinking. No data were given on distribution of subjects. Rezler also compared preferences of these freshmen students for two practice settings (Fee-for-Service vs. Salaried) and found no significant difference in mean continuous scores.

c. The New Mexico Longitudinal Study

As part of the New Mexico studies, Graham and Otis reported in 1973 on cross-sectional data relating to interest in direct patient care. Figures 13 and 14 show the mean percentages of time which different groups of students and graduates reported in answer to a question about how much of their time in practice they anticipated devoting to direct patient care. Figure 13 compares the sensing and intuitive types for the extraverts, and Figure 14 compares the sensing and intuitive types for the introverts. In both figures, sensing types anticipate more time in direct patient care than intuitives. It is interesting to note that the pattern for extraverts shows greater variability over time than that for introverts. One possible explanation is that, in theory, extraverts are more sensitive to environmental pressures and changes. These data are consistent with theoretical expectations, but need to be repeated with the same subjects over time, and with larger samples. (The figures shown have 58 ES, 114 EN, 68 IS and 144 IN types. In the analysis of variance, only the SN main effect was statistically significant with F 19.16, $p <.001$).

Specialty choice and plans for practice setting are included in the summary tables of the Object Types given earlier (tables 60 to 72). Figures in the community (Type 10) who were all sympathetic and friendly -SF- types had the greatest preference for primary care of the 12 O-types. The Extraverted Pragmatists of Type 12 also are interested in direct patient care. The Otis data are interesting because even with these small samples significant differences in specialty preferences appear in freshmen students. An important additional fact is that the O-types with low anxiety are more interested in high-patient-contact specialties.

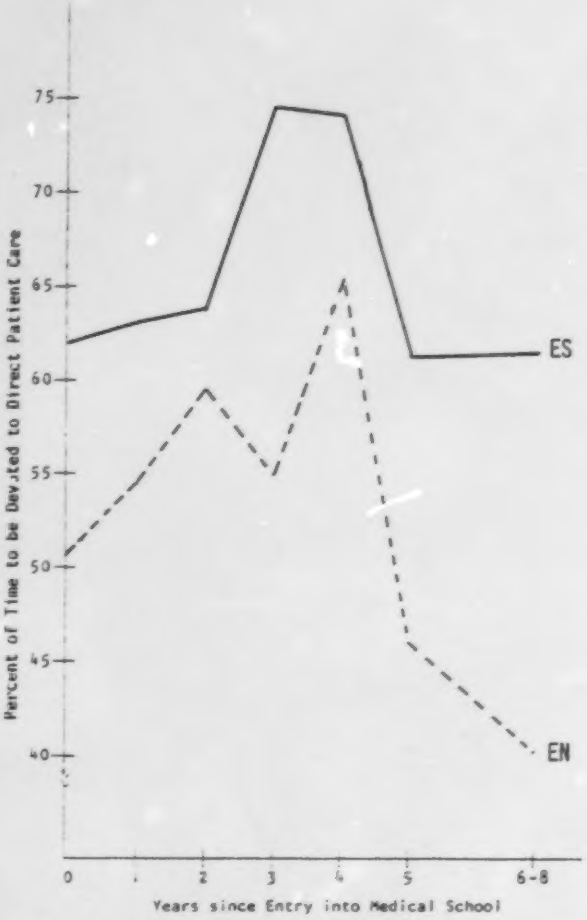

Figure 13
Anticipated percent of time to be devoted to DIRECT PATIENT CARE for extraverts with sensing (ES) and extraverts with intuition (EN) as a function of years since entry to medical school.

(From Year IV: Second Quarterly Report, HRA No. 1-MI-24197 by John R. Graham and Gerald D. Otis, 1973, p.5.)

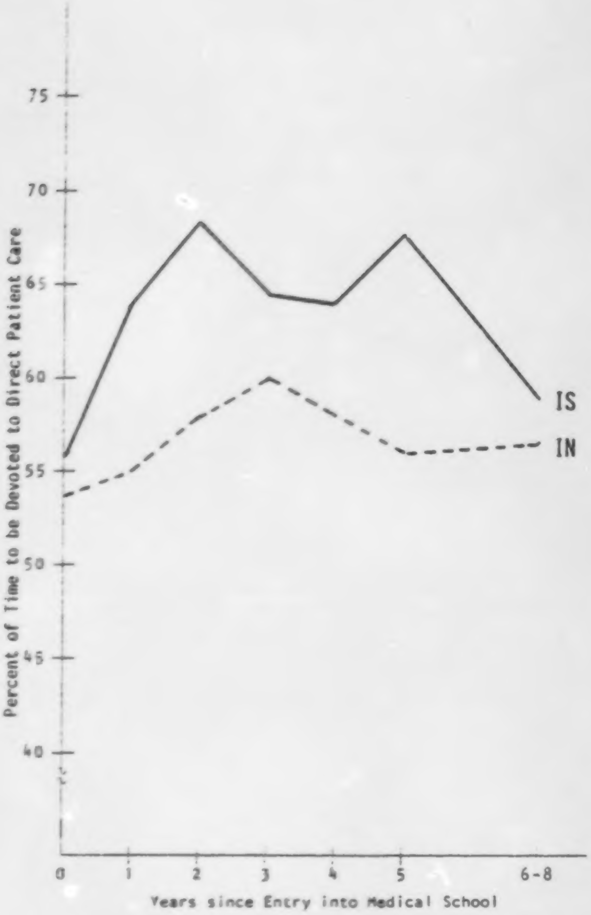

Figure 14
Anticipated percent of time to be devoted to DIRECT PATIENT CARE for introverts with sensing (IS) and introverts with intuition (IN) as a function of years since entry to medical school.

(From Year IV: Second Quarterly Report, HRA No. 1-MI-24197 by John R. Graham and Gerald D. Otis, 1973, p. 5.)

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5. Practice Plans of Pharmacy Students

Several large-scale studies of pharmacy students are underway at the University of Illinois and the University of Florida. Preliminary findings on the Illinois students are reported by Rezler, Mrtek & Manasse (1976). Of the 430 males in their study, 50.5% planned careers in retail settings. Perceptive types were more attracted to retail, and introverts, thinking types and judging types were more interested in working in hospital pharmacies. Among the 184 females, 54.7% planned to work in a clinic or in a hospital pharmacy. Thinking types were relatively more attracted to hospital settings, and feeling types to independent retail settings. The science-minded intuitives and thinking types were more attracted to working in industry. As noted in Part II of this report, pharmacy tends to attract relatively more introverts than other health fields. It seems reasonable to expect in future reports that the extraverts in this field will be more attracted to settings with high levels of active patient contact.

6. Other Type Differences in Careers

In Part II of this monograph some of the data on type differences at each level of training in nursing and physical therapy were noted. They will not be repeated here. There is some support for the prediction that relatively more IN-- and -NT- types will be attracted to higher education, and to teaching and research.

Use of the MBTI in career counseling is growing. Many counselors find the MBTI and Jung's theory lead to a self-understanding which in itself is useful for career decision-making. Counselors are also requesting hard data on type differences in careers. This report provides more information on type differences in health careers than has been available before. However, it is important to recognize the limitations of our knowledge at this stage.

We now have the broad outlines of type differences in career choices—people do use decision-making strategies which are understandable in light of the preferences of their types. They do tend to move toward careers whose tasks call on the interests and skills of their types.

At almost every point, however, data are incomplete. Findings need to be cross-validated in other schools and in other fields of health. Much more needs to be known about the precise ways used by members of each type to make decisions at each stage of the decision-making process. We do not know the extent to which type-related decisions are seen as good decisions or poor decisions by individuals themselves, and by those who train and evaluate them. We know very little about individual differences within each type. Do persons who have achieved high levels of type development make better career decisions than those at earlier stages of development? Major gains in this important area would be possible rapidly if data already existing could be pooled, and if consortia of professional schools would collect similar data on decision-making and career satisfactions.

PART IV

THE HEALTH PROFESSIONAL IN PRACTICE

In Part I of this report, nine areas of interest in studying type differences in careers were listed—interest, selection, dropout, training, retention in practice, specialty choice, manner of practice, satisfaction, and competence.

The issues of interest, selection, dropout and retention in practice were discussed in Part II. The issues of training and initial specialty choices were discussed in Part III.

Part IV is concerned with the remaining issues. Are there type differences in specialists in the health professions? Is there evidence that changes of specialty are in the direction of specialties more compatible with type preferences? How do professionals choose their practice settings and their styles of working? Is there evidence that professionals in fields, specialties and settings which "fit" their type are more satisfied and are performing their professional tasks with greater competence?

We found two samples of data giving medical specialties (Myers and Quenk) and some preliminary indications of specialties in nursing (CAPT data bank), dietetics and nutrition (Fellers), medical technology (French and Rezler, Williams) and occupational therapy (Brown-Kahler). These sources also include some information on practice setting. Findings will be summarized in sections which follow. The most comprehensive analysis of satisfaction is that of Quenk based on the study which created a taxonomy of work settings. Brown-Kahler, Fellers and Williams also provide data related to satisfaction.

No studies or data were found dealing with the critically important question of the competence of practicing professionals of different types.

The theoretical expectations of type differences in careers have been given in Part I A-2, I B-2, II A and III A of this report. They are not repeated here.

The research sample of Myers-Briggs Type Indicators for health professionals includes 8,875 cases of which 7,802 or 88% were in the CAPT data bank. In only four areas—clinical laboratory services, dietetics and nutrition, social work, and other health-related fields—do practitioners of our sample outnumber students. In only six fields—medicine, nursing, pharmacy, clinical laboratory services, dietetics and nutrition, and psychological and counseling services—are there more than 250 practitioners in our sample. The limitations of these samples should be kept in mind in the discussions that follow. Data bank codes for specialties have developed slowly over the years. Many people taking the MBTI simply list their major occupation and not the specialty on answer sheets. For both these reasons, we found many fewer cases with specialties than we had hoped for. Most data on specialties and work settings come from investigators who have studied these issues directly.

A. The Practicing Physician

The sample of 1881 practicing physicians plus the 4953 physicians identified in the 1973 follow-up of the Myers Longitudinal Medical Study give information on 6834 physicians who are the subject of this section of the report. Most of the discussion will focus on two research studies, the Myers 1973 follow-up and the New Mexico studies of physician work settings. General findings are reported in this section, and an overview of findings for each specialty is given in Section B.

1. The Myers Longitudinal Medical Study

Myers identified specialties for 4556 of her sample of 5355 students tested mainly in the early 1950's. CAPT identified 4953 in practice ten years later, in 1973. A comparison of the distributions of specialties and residence showed the 1973 sample to be reasonably representative of United States physicians.

Monograph II prepared under this contract reports on the Myers study from its inception through the 1973 follow-up. Highlights of findings on specialty distribution, specialty board certification, specialty society memberships, professorial appointments, and changes of specialty from 1963 to 1973 will be reported here, and compared with the New Mexico studies where possible.

2. The New Mexico Studies of Physician Work Settings

A series of studies in the past decade by Gerald D. Otis, Naomi L. Quenk, and their colleagues Martha Albert, John R. Graham, Wayne A. Heffron, Wayne Mitchell, and Joanne R. Weiss have attempted to find some order in the large numbers of individual differences and situational pressures which interact to affect manpower distribution.

The team followed a strategy of collecting data over a large number of personal and situational variables, then applying statistical procedures to group persons into clusters with similar characteristics. There are two reasons why the work of the New Mexico team is of interest to those concerned with Jung's theory of psychological types. First, both Jung's type groupings and the New Mexico empirical groupings were aimed at a deeper understanding of complex and important behaviors--both aim to go beyond mere identification of differences to arrive at a rationale for understanding. Second, the New Mexico groupings derive totally from data, and the MBTI groupings derive totally from Jung's theory. It is therefore interesting to see what overlap occurs in groupings based on such opposite approaches.

The MBTI was not the major focus in the New Mexico studies. It was simply one of a large number of variables. In the studies of medical students reported in Part III, Otis used the MBTI and the 16 PF to help define the original clusters; the resulting 0-types were, therefore, not independent of MBTI scores. In the Physician Work Setting studies, on the other hand, the MBTI had no part in the analyses which defined the clusters and the work setting niches.

a. The Work Setting Sample

The Physician Work Setting Studies (Quenk & Albert, 1975; Quenk 1975a, Quenk 1975b) were an effort to provide a way of describing the work worlds of physicians. The strategy was to define a set of characteristics which apply to most practicing physicians and which vary in their presence or absence in different work settings. In order to create a taxonomy which would apply to physicians in a wide range of situations, a heterogeneous sample of 477 physicians was selected to give a distribution of geographic areas of the United States, of community size, and of medical specialties and practice organizations. Table 76 shows the type distributions of the 468 physicians in the sample who answered the MBTI.

There were significantly more sensing and judging types in the Quenk sample than in the CAPT estimate of the physician population. This difference may come from the fact that the sampling process selected proportionately more physicians actively involved in patient care, and more -S-J types are in patient care. A second possibility is that the responsible and dependable -S-J's were more likely to meet their commitments for participation. One-fifth of the sample is made up of the "super-dependable" ISFJ's.

b. The Physician Work Setting Instrument (PWSI)

The Physician Work Setting Instrument was developed for the project and pre-tested in a pilot sample of New Mexico physicians. The PWSI is an extensive questionnaire, covering information about medical education, former work settings and reasons for leaving them, patient characteristics in present setting, satisfaction with the setting, and plans for remaining in or leaving the present setting.

The remainder of the PWSI consists of 62 items describing a wide range of activities associated with medical practice. Physicians rated each activity on a 6-point scale to show how characteristic it was of their present work setting. In addition, they recorded one of three value categories for their attitudes toward each of the 62 items— "+" if they wished it were more characteristic of their setting, "-" if they wished it were less characteristic, and "x" if they considered it did not matter or was irrelevant. (For example, a physician might rate "filling in forms" as "very characteristic" but record a value of "-", indicating that he wished there were fewer to do.)

c. Data Analysis: Dimensions of Work Setting Activities

A series of data analyses were applied, using the BC-TRY system of cluster analysis (Tryon & Bailey, 1970). The details are described in the original reports, and also in Otis (1972).

Table 76

Myers-Briggs Type Indicator **Type Table**

PRACTICING PHYSICIANS

PHYSICIAN WORK SETTING STUDY : TOTAL SAMPLE

N = 468

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N = 93 % = 20.94 ▯▯▯▯▯▯▯▯▯▯ ▯▯▯▯▯▯▯▯▯▯ ▯▯▯▯▯▯▯▯▯▯ R 1.48***	*ISFJ* N = 44 % = 9.40 ▯▯▯▯▯▯▯▯▯ R .95	*INFJ* N = 38 % = 8.12 ▯▯▯▯▯▯▯▯ R 1.00	*INTJ* N = 37 % = 7.91 ▯▯▯▯▯▯▯▯ R 1.14	JUDGING INTROVERTS
ISTP N = 12 % = 2.56 ▯▯▯ R .89	*ISFP* N = 8 % = 1.71 ▯▯ R .71	*INFP* N = 25 % = 5.34 ▯▯▯▯▯ R .58***	*INTP* N = 14 % = 2.99 ▯▯▯ R .61*	PERCEPTIVE
ESTP N = 8 % = 1.71 ▯▯ R 1.04	*ESFP* N = 12 % = 2.56 ▯▯▯ R 1.38	*ENFP* N = 38 % = 8.12 ▯▯▯▯▯▯▯▯ R 1.03	*ENTP* N = 18 % = 3.85 ▯▯▯▯ R 1.17	PERCEPTIVE EXTRAVERTS
ESTJ N = 39 % = 8.33 ▯▯▯▯▯▯▯▯ R 1.06	*ESFJ* N = 26 % = 5.56 ▯▯▯▯▯▯ R .90	*ENFJ* N = 22 % = 4.70 ▯▯▯▯▯ R .74	*ENTJ* N = 29 % = 6.20 ▯▯▯▯▯▯ R .96	JUDGING

	NUMBER	PERCENT	RATIO
E	192	41.0	.99
I	276	59.0	1.01
S	247	52.8	1.13**
N	221	47.22	.89**
T	255	54.5	1.13**
F	213	45.5	.88**
J	333	71.2	1.08**
P	135	28.8	.85**
IJ	217	46.4	1.19***
IP	59	12.6	.65***
EP	76	16.2	1.11
EJ	116	24.8	.92
ST	157	33.6	1.26***
SF	90	19.2	.95
NF	123	26.3	.84**
NT	98	20.9	.97
SJ	207	44.2	1.16**
SP	40	8.6	.97
NP	95	20.3	.80**
NJ	126	26.9	.97
TJ	203	43.4	1.22***
TP	52	11.1	.87
FP	83	17.7	.83*
FJ	130	27.8	.91
IN	114	24.4	.84**
EN	107	22.9	.95
IS	162	34.6	1.18**
ES	85	18.2	1.04

NOTES:

Table created from data in Quenk, N. L. & Albert, M. *A Taxonomy of Physician Work Settings*, Study Report #2 to Bureau of Health Resources Development, HRA Contract No. 1-MI-24197, 1975.

Ratios compare frequencies of this sample with those of the composite of 1881 practicing physicians described in *Application of the Myers-Briggs Type Indicator to Medicine and Other Health Professions*: *Monograph I*. HRA Contract 231-76-0051.

* *p* <.05, ** *p* <.01 and *** *p* <.001

In the first stage of analysis, the 62 items were reduced to seven basic dimensions or clusters which accounted for the general correlation among variables. The dimensions were named (1) Personal Patient Involvement, (2) Physician Teacher, (3) Personal Control of Professional Situation, (4) Medical Innovation, (5) Personal Control of Income, (6) Interaction with Medical Community, and (7) Professional Ambition. The similarity of these dimensions to those of the pilot study and the medical student study gave the investigators more confidence that they were identifying real phenomena of importance in practice.

MBTI scores were not used at this stage, but later Quenk (1975b) compared mean scores for physicians with opposing MBTI preferences (E's vs. I's, S's vs N's, T's vs. F's and J's vs P's) on each of the 7 clusters and on the 62 items separately as well as other research variables. Table 77 shows the factor coefficients for items in each cluster or dimension and the direction of significant differences in the MBTI comparisons. Items on the table are marked "°" if they defined a cluster; unmarked items appeared in the cluster but were not used to define it in computing cluster scores for each physician at a later stage of the study. Items marked "+" are additional items for which Quenk found significant MBTI differences. For the 71 items listed, 284 comparisons were made; by chance alone one would expect to find a total of 15 statistically significant differences (p .05). Quenk found a total of 97 significant differences, more than six times the number expected by chance.

d. Data Analysis: Work Setting Niches

Scores for each of the seven dimensions were computed for each physician. A series of iterative analyses tried out groupings of physicians. In the final groupings all physicians in each group had similar patterns of scores on the seven clusters; each group's pattern was enough different from the patterns of other groups to warrant its own identity. The seven groups, or "niches", were then compared in terms of their responses to all other variables of the research project. The seven niches were labeled (1) The Technical Specialist Niche, (2) The Traditional Primary Care Niche, (3) The Situational Constraint Niche, (4) The Service-Institutional Niche, (5) The Traditional Specialist Niche, (6) The Physician Statesman Niche and (7) The Medical Teacher Niche. Tables 79 to 84 show the distribution of MBTI types in each niche and common characteristics of physicians within it. (The type distributions were not part of the original study, but were created by Quenk for this report.) While Quenk and her colleagues do not claim definitive findings from this small sample of physicians, they have managed to bring a sense of order into an almost unmanageable complexity of individual and environmental variables. With practicing physicians, as with other people, one can begin to understand why "one man's meat is another man's poison."

The data will not be described in detail in the text, because they are exemplified in the tables.

Table 77
Characteristics of Physician Work Settings in Relation to Myers-Briggs Type Indicator Preferences

Work Setting Clusters and Characteristic Items	Factor Coefficients	EI	SN	TF	JP
CLUSTER 1: PERSONAL PATIENT INVOLVEMENT (Reliability .8730)		E***	-	F***	-
°Advising or counseling patients and/or their families	.8660	E**	N*	F***	-
°Direct patient contact	.7951	-	-	F*	-
°Dealing with patients' emotional difficulties	.7387	E***	N**	F***	P**
°Explaining diagnoses and treatment plans to patients and families	.6942	-	-	-	-
°Opportunity to follow and evaluate patient progress	.6616	E**	N**	-	-
Referring patients to other practitioners or institutions	.6054	E***	-	-	-
Performing therapeutic procedures, including surgery, psychotherapy, radiologic treatment, etc.	.4907	-	-	-	-
Maintaining a fairly consistent and predictable patient-scheduling system	.4562	-	S*	-	J*
Opportunity for appreciation and prestige from lay public	.4140	E***	-	-	-
Emphasis on diagnosing and developing treatment plans	.4085	-	-	T*	-
Devoting time to particular patient problems or kinds of patients	.3818	-	-	-	-
Medical record-keeping	.3644	-	-	-	-
+Reviewing patient charts, including analysis of test results	-	-	-	T***	-
+Performing diagnostic procedures including laboratory tests, upper G.I. series, biopsies, cytologies, autopsies, etc.	-	-	-	T**	J**
+Assisting other physicians in performing procedures	-	-	-	-	J**
+Providing some form of patient care outside of major practice setting (e.g. community clinics, hospitals, etc.)	-	E**	-	F***	-
+Performing habitual or nonvarying medical activities	-	-	S**	-	J**
+Average number of patients seen per week (greater number)	-	-	S**	-	-
CLUSTER 2: PHYSICIAN-TEACHER (Reliability .8273)		-	N**	T**	-
°Teaching medical students, interns or residents	.8343	-	-	T*	-
°Supervision and/or teaching medical students or medical personnel	.7375	-	N**	T*	-
°Opportunity for affiliation with a medical school	.7013	-	N***	T***	-
°Presenting cases to some audience	.5297	-	N**	T*	-
Organizational administration (e.g. committee work, policy development)	.4412	-	-	T*	-
Supervision of subordinates	.4222	-	-	F***	-
CLUSTER 3: PERSONAL CONTROL OF PROFESSIONAL SITUATION (Reliability .7937)		-	-	-	-
°Maintaining my preferred pace of life	.8092	-	S***	-	J*
°Sufficient time for family and outside activities	.8004	E**	S*	-	-
°Determining amount of free time and/or vacation time	.7076	-	S**	-	J***
°Cultural or recreational activities in my geographical area	.4020	-	-	-	-
+Taking less vacation and/or free time than one is entitled to take	-	I**	-	-	-
+Number of regular work settings (greater number)	-	-	N**	-	-
+Time "wasted" due to travel between professional locations	-	-	N***	-	-
+Serious financial constraints limiting provision of patient care	-	-	N**	F***	-
+Opportunities for spouse to be employed or pursue preferred activities	-	-	N***	F**	-
+Responsibility for defining one's role, duties and activities	-	E***	-	T***	-
CLUSTER 4: MEDICAL INNOVATION (Reliability .7522)		-	N**	T***	-
°Trying out new ideas	.7279	-	N**	T**	-
°Access to new developments in a field of interest or specialization	.6594	-	-	T*	-
°Expanding one's knowledge in an area of medicine	.6240	-	N**	T***	-
°Dealing with new or unusual patient problems	.5596	-	-	-	-
Delegation of certain medical tasks to subordinates	.3796	-	-	T***	J*
CLUSTER 5: PERSONAL CONTROL OF INCOME (Reliability .6667)		-	-	-	-
°Personally handling financial aspects of medical practice	.7071	E***	S*	-	J**
°Personal control of amount of earnings	.7052	-	-	-	J**
Personal control of amount of time devoted to patient care	.3503	E***	-	-	-
+Income from medicine (higher income)	-	-	S*	-	J**

Table 77 continued

Work Setting Clusters and Characteristic Items	Factor Coefficients	EI	SN	TF	JP
CLUSTER 6: INTERACTION WITH THE MEDICAL COMMUNITY (Reliability .6992)		-	-	T*	-
°Working with other physicians on some joint task	.6878	-	-	-	-
°Sharing patient responsibility with other physicians	.6435	-	-	-	-
°Dealing with emergency medical problems	.4851	-	-	-	-
°Sharing doubts, frustrations or problems with colleagues	.4586	-	-	-	-
°Access to hospital facilities	.4004	-	-	-	J*
Accessibility of consultation services	.4172	E**	N*	-	-
+Case consultation with other professional personnel	-	-	-	T*	J***
+Isolation from other physicians	-	I*	-	-	P***
CLUSTER 7: PROFESSIONAL AMBITION (Reliability .7420)		-	-	T***	-
°Opportunity for professional advancement	.7866	-	-	T***	-
°Focus on a special interest area within a specialty	.5917	-	-	T*	-
°Opportunity for prestige and recognition from colleagues	.5816	E***	-	T*	-
°Intellectual stimulation through interaction with colleagues	.5332	-	-	-	J**
QUESTIONNAIRE ITEMS NOT INCLUDED IN CLUSTERS					
+Active participation in non-medical community affairs	-	E***	-	F**	-
+Working with or under a community board or citizens' group	-	E**	-	-	P*
+Year of graduation from medical school (more recently)	-	-	N**	-	-
+Physician's age (older physicians)	-	I*	S***	-	J***
+Length of time in present setting (longer time)	-	-	S***	T*	J***
+Community size (smaller community)	-	-	S***	-	-
+Sum of questionnaire items rated *irrelevant* to satisfaction	-	-	-	-	P**
+Sum of items physician wishes were *less* characteristic of work setting	-	-	-	-	P**
+Sum of items physician wishes were *more* characteristic of work setting	-	-	-	-	P**
NUMBER OF PHYSICIANS WITH EACH MBTI PREFERENCE		E 192 I 276	S 247 N 221	T 255 F 213	J 333 P 135

Notes: Data are taken from Quenk, N. L. *Sources of physician satisfaction*. Report to the Bureau of Health Manpower, Health Resources Administration, Contract No. 1-MI-24197, 1975, and from Quenk, N. L. *Characteristics of physician work settings in relation to Myers-Briggs preferences*. Paper presented at First National Conference on the Myers-Briggs Type Indicator, Gainesville, Florida, October, 1975.

Items marked ° are definers of the cluster. Factor scores were based on definers only. Unmarked items fell within the cluster but were not used on computing factor scores. Items marked + were in questionnaire but did not fall within a cluster. They are placed with other items which seemed to CAPT to be related in content.

The MBTI preferences show the preference with the higher score when items were compared for differences in mean scores for E's vs. I's, S's vs. N's, T's vs. F's and J's vs. P's.

* $p < .05$, ** $p < .01$ and *** $p < .005$.

Table 78
Characteristics of Niche 1: TECHNICAL SPECIALISTS *from A Taxonomy of Physician Work Settings*

PATTERN OF CLUSTER SCORES	Level	Mean
Personal Patient Involvement	Very Low	30.0
Physician Teacher	Moderately High	55.0
Personal Control of Professional Situation	Moderately High	55.0
Medical Innovation	Average	51.0
Personal Control of Income	Moderately Low	46.0
Interaction with Medical Community	Average	47.0
Professional Ambition	Moderately High	54.0

MYERS-BRIGGS TYPE INDICATOR SCORES

E 42%	S 52%	T 69%	J 69%
I 58%	N 48%	F 31%	P 31%

Compared to total sample, Niche 1 has significantly more thinking types (ratio 1.26*). This effect comes mainly from the tough-minded --TJ's (1.39*); the patient-oriented --FJ's are underrepresented (.30**). Niche 1 has significantly more than the expected numbers of ISTJ (1.72**) and ENTJ (2.10*).

SPECIALTIES OF PHYSICIANS IN NICHE 1

98% of all physicians in Niche 1 are in pathology, radiology or anesthesiology.

There are no general or family practitioners, primary care specialists, or surgeons; there is one psychiatrist.

BACKGROUND AND EDUCATION OF PHYSICIANS IN NICHE 1

Before coming to college were living in larger communities.

Typical of the total sample in proportion of straight as opposed to rotating internships; typical in percentage of internships and residencies in medical school settings.

Specialty training obtained by 100% in Niche 1.

Fifteen percent changed specialties; those who did so made the change earlier than physicians of any other niche.

The number of females in Niche 1 is typical of sample.

WORK HISTORY OF PHYSICIANS IN NICHE 1

These physicians were most likely of all niches to have their first work setting in a medical school; an average number were in institutional settings and very few were in private practice.

Reasons given for leaving the first setting were more likely than any other niche to be a move to a better position or because of unresolvable differences.

In the second practice setting, they were most likely to move into institutional settings, less likely to be in private practice; an average number remained in medical school settings.

RELATIONSHIP OF SPECIALTY AND WORK SETTING

A high proportion of physicians in Niche 1 regard their work setting and specialty as interdependent; they don't find it possible or practical to separate their specialty from their work setting decisions.

48 PHYSICIANS IN THE TECHNICAL SPECIALIST NICHE
Niche 1

ISTJ ●●●●●● ●●●●●● ●●●●●	ISFJ ●●●	INFJ ●	INTJ ●●●
ISTP	ISFP	INFP ●●●	INTP ●
ESTP ●●	ESFP ●	ENFP ●●●●● ●●	ENTP ●
ESTJ ●●	ESFJ	ENFJ	ENTJ ●●●●● ●●

CHARACTERISTICS OF THE PRACTICE OF PHYSICIANS IN NICHE 1

Highest percentage in any niche of physicians practicing in cities and metropolitan areas.

Highest percentage of any niche in drawing patients from cities or towns.

Highest percentage in any niche of patients coming from all age groups; typical in male-female distribution.

See a high percent of low income patients, and see fewer middle income patients than any other niche.

Most likely to describe patients as coming from a mixture of racial backgrounds; a low percentage of patients are white, compared to total sample.

Highest percentage of patients referred to them of any niche, and lowest in percentage of own referrals.

Highest patient load per week of any niche. Income high.

A high proportion of these physicians do medical teaching.

A high proportion of Niche 1 physicians work in institutional settings and fewer than expected are in private practice. They are typical of the total sample in the number of work settings in which they offer care.

SATISFACTION OF PHYSICIANS IN NICHE 1

Somewhat more satisfied than sample average; 81% were satisfied with both specialty and work setting; 15% were dissatisfied with setting, 4% with specialty, and none were dissatisfied with both.

None planned to change specialty or setting in the near future, and 57% said they were not dissatisfied enough to consider changing. The remainder said changes were impractical, or that their setting had other benefits in leaving time for non-professional activities.

Although they described their involvement with patients and control of personal income as lower than other niches, they would like even less of both. They also would prefer less interaction with the medical community than is required by their present setting.

Note: This table was prepared from Table 2 and the related text in Quenk, N. L. & Albert, M., *A Taxonomy of Physician Work Settings*, Study Report #2 to the Bureau of Health Resources Development, HRA Contract No. 1-MI-24197, 1975

Table 79
Characteristics of Niche 2: TRADITIONAL PRIMARY CARE from *A Taxonomy of Physician Work Settings*

PATTERN OF CLUSTER SCORES

	Level	Mean
Personal Patient Involvement	Moderately high	55.0
Physician Teacher	Low	38.0
Personal Control of Professional Situation	Average	51.0
Medical Innovation	Average	47.0
Personal Control of Income	Moderately high	58.0
Interaction with the Medical Community	Average	51.0
Professional Ambition	Moderately Low	44.0

MYERS-BRIGGS TYPE INDICATOR SCORES

E 45%	S 63%	T 52%	J 73%
I 55%	N 37%	F 48%	P 27%

Compared to total sample, significantly more sensing types are in Niche 2 (ratio 1.23*). This effect comes from the extraverts (ES-- ratio 1.61**), as introverts with sensing are at expected levels (IS-- 1.01).

71 PHYSICIANS IN TRADITIONAL PRIMARY CARE
Niche 2

ISTJ [illegible]	ISFJ ●●●●●●●	INFJ ●●●●●●●	INTJ ●●●●
ISTP ●	ISFP ●	INFP ●	INTP ●●●
ESTP ●●●	ESFP ●●●●	ENFP ●●●●●	ENTP ●
ESTJ [illegible]	ESFJ ●●●●●●	ENFJ ●●●	ENTJ ●●

SPECIALTIES OF PHYSICIANS IN NICHE 2

Highest percentage of General Practice and Family Practice of any Niche.
Average number in primary care specialties and psychiatry.
Below average number of surgeons and lowest of pathologists, radiologists and anesthesiologists.

BACKGROUND AND EDUCATION OF PHYSICIANS IN NICHE 2

Before going to college, lived in smaller communities.
More likely to have had rotating internships; lowest percentage of straight internships of any niche.
Internship more likely to have been in a hospital than in a medical school. Residency in medical schools at about same rate as total sample.
Specialty training obtained by 77%, lowest of any niche.

Only 11% changed specialty (lowest percent of any niche) and these changes came after a longer period than any other niche.
There are fewer females in this niche than expected from the sample as a whole.

WORK HISTORY OF PHYSICIANS IN NICHE 2

The first practice setting was most likely to be private practice and least likely to be in a medical school.
The main reasons for leaving the first practice setting were either general dissatisfaction or for reasons associated with the family or their lifestyle.

The second practice setting had the highest percentage of private practice of any niche; they were unlikely to be in medical schools and even less likely to be in institutional settings.

RELATIONSHIP OF SPECIALTY AND WORK SETTING

Highest of all niches in seeing the specialty and work setting as interdependent. These physicians were most likely to say they did not find it possible or practical to separate their specialty from their work setting decisions.

CHARACTERISTICS OF THE PRACTICE OF PHYSICIANS IN NICHE 2

Highest percentage in any niche in communities under 5000 people, rural areas and small towns.

Patients were typical of all physicians in the study in ages and in male-female distribution.

Patients were most likely to come from middle-income groups; this niche had the lowest percentage of low income patients of any niche. A high percentage of patients were white.

The physicians of Niche 2 were least likely to have patients referred to them by other physicians; they were typical of all physicians in the study in the numbers of patients they themselves referred.

They saw a large number of patients each week, typically in the same practice setting.

Their income was high, derived almost exclusively from direct patient care.

This niche had the highest percentage of physicians in private practice and the lowest in medical schools or institutional settings.

SATISFACTION OF PHYSICIANS IN NICHE 2

Typical of the total sample in level of satisfaction—71% are satisfied with both specialty and setting, 3% are not satisfied with specialty and 25% are not satisfied with their work setting; 1% are dissatisfied with both.

Ten percent were unhappy enough to be planning a change in the near future; 40% said they were not enough dissatisfied to contemplate a change, and the remainder said change would be impractical, or that they had other compensations in time for non-professional activities.

They are typical of the total sample in the number of items they wish were more characteristics or less characteristic of their present practice setting. They reported feeling adequate control over their professional situation and strong control over personal income, and were satisfied with the levels of control reported.

Note: This table was prepared from Table 2 and the related text in Quenk, N. L. & Albert, M., *A Taxonomy of Physician Work Settings*. Study Report #2 to the Bureau of Health Resources Development, HRA Contract No. 1-MI-24197, 1975.

Table 30
Characteristics of Niche 3: SITUATIONAL CONSTRAINT from *A Taxonomy of Physician Work Settings*

PATTERN OF CLUSTER SCORES	Level	Mean
Personal Patient Involvement	Average	53.0
Physician Teacher	Average	50.0
Personal Control of Professional Situation	Very Low	36.0
Medical Innovation	Average	48.0
Personal Control of Income	Average	51.0
Interaction with the Medical Community	Average	50.0
Professional Ambition	Average	47.0

MYERS-BRIGGS TYPE INDICATOR SCORES

E 40%	S 38%	T 47%	J 62%
I 60%	N 62%	F 53%	P 38%

Compared to the total sample, significantly more intuitive types are in Niche 3 (ratio 1.28*). This effect comes mainly from the spontaneous intuitives (-N-P ratio 1.50*) who are the types most oriented toward change and growth. There are significantly fewer of their opposites, the conservative -S-J's (ratio .72*).

SPECIALTIES OF PHYSICIANS IN NICHE 3

Highest percentage of primary care specialties and a high number of Family Practitioners.

Average number of psychiatrists and surgeons (but no general surgeons).

Average number of pathologists, radiologists and anesthesiologists.

BACKGROUND AND EDUCATION OF PHYSICIANS IN NICHE 3

Before coming to college lived in very small communities.

Typical of the total sample in the proportion of straight as opposed to rotating internships, and in the percentage of internships and residencies in medical centers.

Specialty training obtained by 89%.

Highest of all niches in specialty changes (27%). Typical of the entire sample in the number of years before making these changes.

There is a higher percentage of females in this niche than in the sample as a whole.

WORK HISTORY OF PHYSICIANS IN NICHE 3

The first practice setting was more likely to be private practice than in any other niche; there were an average number in institutional settings and few were in medical school settings.

The main reasons for leaving the first practice setting were the opportunity to follow a slower pace (a reason given by this niche more than any other) or general dissatisfaction with the professional position or setting.

The second setting had a higher percentage in private practice or medical schools, and a lower proportion in institutional settings.

RELATIONSHIP OF SPECIALTY AND WORK SETTING

A high proportion regarded their work setting and their specialty as two distinct aspects of their career; decisions in one area could be made fairly independently of decisions in the other area.

55 PHYSICIANS IN THE SITUATIONAL CONSTRAINT NICHE
Niche 3

ISTJ ■■■■■■■■	ISFJ ■■■■■■	INFJ ■■■■■	INTJ ■■■■■■
ISTP ■	ISFP ■	INFP ■■■■	INTP ■■
ESTP ■	ESFP ■	ENFP ■■■■■■■■	ENTP ■■■
ESTJ ■■	ESFJ ■	ENFJ ■■■	ENTJ ■■■

CHARACTERISTICS OF THE PRACTICE OF PHYSICIANS IN NICHE 3

Niche 3 physicians are found in communities of all sizes. A high proportion describe their patient drawing area as their entire state.

A higher than average number say their patients come from all age groups, both sexes, and a range of income levels (though they see fewer in low income).

They are typical of the total sample in distribution of ethnic groups, in patients referred to them, and in patients they themselves refer.

They are typical of the total sample in the number of patients seen during the week, in their income, and in the number of different practice settings occupied in a typical week.

They were found distributed through all types of practice and practice organization.

SATISFACTION OF PHYSICIANS IN NICHE 3

Physicians in Niche 3 are most dissatisfied of any niche. They have very few activities they would like unchanged, and most activities of their settings which they wish were either more or less characteristic.

They especially wished for more Personal Control of Professional Situation (Cluster 3) in which they feel inadequate, but also want more Personal Patient Involvement, more activity as Physician-Teacher, more Personal Control of Income, and more Professional Ambition, in all of which their scores were typical of the total sample.

Only 49% reported being satisfied with both their specialty and work setting (the lowest % of any niche). Only 4% were dissatisfied with their specialty, but 36% were dissatisfied with their work setting, and 11% were dissatisfied with both.

The highest percent of any niche (23%) planned to change settings soon; however, 50% said they were not unhappy enough to change, and 27% said change was impractical.

Many dissatisfied were in primary care in smaller communities, where they had not managed to feel in control over their professional situations.

Note: This table was prepared from Table 2 and the related text in Quenk, N. L. & Albert, M., *A Taxonomy of Physician Work Settings*, Study Report #2 to the Bureau of Health Resources Development, HRA Contract No. 1-MI-24197, 1975.

Table 21
Characteristics of Niche 4: THE SERVICE-INSITUTIONAL NICHE from *A Taxonomy of Physician Work Settings*

PATTERN OF CLUSTER SCORES	Level	Mean
Personal Patient Involvement	Moderately High	54.0
Physician Teacher	Moderately Low	46.0
Personal Control of Professional Situation	Average	53.0
Medical Innovation	Moderately Low	46.0
Personal Control of Income	Low	40.0
Interaction with the Medical Community	Average	50.0
Professional Ambition	Average	48.0

MYERS-BRIGGS TYPE INDICATOR SCORES

E 42%	S 58%	T 55%	J 54%
I 58%	N 42%	F 45%	P 36%

The distribution of types in Niche 4 is typical of that of the total sample. The mean preference score for sensing is higher than expected. Type ISTP is over-represented (ratio 3.05*).

53 PHYSICIANS IN THE SERVICE-INSTITUTIONAL NICHE
Niche 4

ISTJ θθθθθ θθθθ	ISFJ θθθθθ θ	INFJ θθ	INTJ θθθθ
ISTP θθθθ	ISFP θ	INFP θθθθ	INTP θ
ESTP θ	ESFP θ	ENFP θθθθ	ENTP θθθ
ESTJ θθθθθ	ESFJ θθθθ	ENFJ θθ	ENTJ θθ

SPECIALTIES OF PHYSICIANS IN NICHE 4

All specialties are represented in this niche; the percentage of surgeons is high; there are the expected numbers of physicians in general practice, family practice, and primary care specialties, and the expected number of psychiatrists. There are few anesthesioloists, pathologists or radiologists (who were found in Niche 1).

BACKGROUND AND EDUCATION OF PHYSICIANS IN NICHE 4

Typical of total sample in size of community of residence before entering college

Typical of the total sample in the proportion of straight as opposed to rotating internships, and in internships in medical settings.

Niche 4 and Niche 5 had the lowest percentage of physicians with residencies in medical schools.

Specialty training was obtained by 87%.

Fourteen percent changed specialties after a period of time typical of the sample as a whole.

Niche 4 has the expected number of females.

WORK HISTORY OF PHYSICIANS IN NICHE 4

The first practice setting was more likely to be an institutional setting than in any other niche; a high percentage also were in private practice: none were in medical schools.

Niche 4 physicians were most likely of all niches to leave the first practice setting because they had an opportunity to relocate in a more desirable professional area (more services, better hospitals).

The second practice setting was also more likely to be institutional; there were an average number in private practice, and fewer in medical schools.

RELATIONSHIP OF SPECIALTY AND WORK SETTING

Physicians in Niche 4 were highly likely to describe their specialty and work setting as interdependent; they said they did not find it possible or practical to separate their specialty from their work setting decisions.

CHARACTERISTICS OF THE PRACTICE OF PHYSICIANS IN NICHE 4

Physicians in Niche 4 live in communities of all sizes; their patients come mainly from the instituitions where they work.

Patients span all age groups, but are less likely to be evenly balanced between males and females.

A high percent of patients are in the middle-income level; few physicians report a mixture of income levels.

Patients are typical of the total sample patient group in range of ethnic groups.

Physicians in Niche 4 have an average number of patients referred to them, and themselves refer an average number to other physicians.

The number of patients seen a week is below average for the total sample.

The income of Niche 4 physicians is lowest of all niches.

A high percentage of these physicians were engaged in direct patient care, usually in one setting.

This niche, as indicated by its name, has the highest percentage of physicians working in institutional settings, and fewer in private practice or medical schools.

SATISFACTION OF PHYSICIANS IN NICHE 4

After Niche 3, physicians of Niche 4 are least satisfied of any niche; 65% were satisfied with both specialty and setting. Eight percent said they were dissatisfied with their specialty, 23% with their work setting, and 4% were dissatisfied with both.

Nine percent planned to change specialty or setting soon; 44% said they were not dissatisfied enough to change, and 47% said either a change was impractical, or their present setting had other benefits in leaving time for non-medical activities.

These physicians seem to have chosen settings which, while not very rewarding financially, do not place great demands on their time for involvement with aspects of medicine other than direct patient care. They are moderately dissatisfied, but plan few changes.

Note: This table was prepared from Table 2 and the related text in Quenk, N.L. and Albert, M., *A Taxonomy of Physician Work Settings*, Study Report #2 to the Bureau of Health Resources Development, HRA Contract No.1-MI-24197, 1975.

Table 82
Characteristics of Niche 5: THE TRADITIONAL SPECIALIST from *A Taxonomy of Physician Work Settings*

PATTERN OF CLUSTER SCORES	Level	Mean
Personal Patient Involvement	Average	53.0
Physician Teacher	Average	53.0
Personal Control of Professional Situation	Moderately High	56.0
Medical Innovation	Moderately Low	45.0
Personal Control of Income	Moderately High	57.0
Interaction with the Medical Community	Moderately Low	45.0
Professional Ambition	Average	52.0

MYERS-BRIGGS TYPE INDICATOR SCORES

E 45%	S 50%	T 43%	J 75%
I 55%	N 50%	F 57%	P 25%

The average numbers of sensing types and intuitive types occur because this niche has large numbers of surgeons (more likely to be S) and of psychiatrists (more likely to be N).

Extraverted feeling types are over-represented (EF-J ratio 1.97*).

SPECIALTIES OF PHYSICIANS IN NICHE 5

Highest percentage of surgeons and psychiatrists of any niche; very few physicians in general or family practice and few pathologists, radiologists or anesthesiologists. This niche has the expected number of other primary care specialists.

BACKGROUND AND EDUCATION OF PHYSICIANS IN NICHE 5

Most likely of all niches to have physicians who lived in metropolitan areas before entering college.

Higher percent had a straight as opposed to a rotating internship.

Lowest of all niches in percentage who had internship or residency in medical schools.

Specialty training was obtained by 98%.

Sixteen percent changed specialties, after a period of time typical of the sample as a whole.

Niche 5 has no female physicians.

WORK HISTORY OF PHYSICIANS IN NICHE 5

The first practice setting was most likely to be private practice; few worked in medical schools; the expected numbers were found in institutional settings.

Niche 5 physicians were more likely to leave their first setting because of general dissatisfaction. Many also left because better positions became available.

This niche was highest of all niches in choosing institutional settings for the second practice setting; an average number chose private practice, and none chose medical schools.

RELATIONSHIP OF SPECIALTY AND WORK SETTING

There was no tendency for physicians of Niche 5 to see the relationship between their specialty and work setting either as interdependent or as independent of one another.

44 PHYSICIANS IN THE TRADITIONAL SPECIALIST NICHE
Niche 5

ISTJ ●●●●● ●●●●●	ISFJ ●●●	INFJ ●●●●	INTJ ●●●
ISTP	ISFP ●	INFP ●●	INTP ●
ESTP	ESFP ●●●	ENFP ●●●	ENTP ●
ESTJ ●	ESFJ ●●●●	ENFJ ●●●●●	ENTJ ●●●

CHARACTERISTICS OF THE PRACTICE OF PHYSICIANS IN NICHE 5

A high percentage of physicians in Niche 5 practice in cities and metropolitan areas.

They draw patients from a range of populations

They are most likely to treat selected age groups and have the highest percentage of white patients of physicians in any niche.

Their patients are typical of the patients reported in the study in distribution of males and females, and of income levels.

They are typical of all physicians in the study in the number of referrals to them, and in the number of patients they themselves refer.

They are also typical of the total sample in the number of patients they see each week, and in the number of settings in which they provide care.

Physicians of Niche 5 are among the higher-income physicians of the study; income was derived almost exclusively from direct patient care.

At this stage of their careers, physicians in Niche 5 are highly likely to be in private practice; few are in institutional settings or medical schools.

SATISFACTION OF PHYSICIANS IN NICHE 5

Niche 5 physicians are the most satisfied physicians in the study. The highest percent, 86%, are satisfied with both specialty and setting. None reported dissatisfaction with specialty alone, 11% (the lowest of any niche) were dissatisfied with their setting; one physician was dissatisfied with both.

Only 7% planned to change specialty or setting in the near future; 43% said they were not dissatisfied enough to change, and 50% said either that change was impractical or that their present setting allowed time for their favorite non-medical activities.

Physicians of Niche 5 were well in control of their professional situation and income. They appear to focus attention primarily on their patients rather than on the general medical community.

Note: This table was prepared from Table 2 and the related text in Quenk, N. L. & Albert, M., *A Taxonomy of Physician Work Settings*, Study Report #2 to the Bureau of Health Resources Development, HRA Contract No. 1-MI-24197, 1975.

Table 83
Characteristics of Niche 6: THE PHYSICIAN STATESMAN from *A Taxonomy of Physician Work Settings*

PATTERN OF CLUSTER SCORES	Level	Mean
Personal Patient Involvement	Moderately High	56.0
Physician Teacher	Moderately High	55.0
Personal Control of Professional Situation	Moderately High	55.0
Medical Innovation	Moderately High	57.0
Personal Control of Income	Moderately High	58.0
Interaction with the Medical Community	Moderately High	57.0
Professional Ambition	Moderately High	58.0

MYERS-BRIGGS TYPE INDICATOR SCORES

E 48%	S 58%	T 57%	J 78%
I 52%	N 42%	F 43%	P 22%

Niche 6 has significantly more than the expected number of decisive and practical extraverts (ES-J ratio 1.81**).

Niche 6 has relatively (but not significantly more E's (1.11), S's (1.13), T's (1.05) and J's (1.11), and types ESTJ is signifcantly over-represented (2.07**).

SPECIALTIES OF PHYSICIANS IN NICHE 6

Although all categories of specialists are in Niche 6, there are a greater number of primary specialists and of surgeons.

Few psychiatrists, pathologists, radiologists and anesthesiologists are in Niche 6.

BACKGROUND AND EDUCATION OF PHYSICIANS IN NICHE 6

Before going to college, lived in larger communities.

Compared to other physicians in the sample, a higher percentage in Niche 6 had straight as opposed to rotating internships, and had internships and residencies in medical schools.
Specialty training was obtained by 93% in Niche 6.

Twelve percent changed specialty; the time interval before making the change was typical of the sample.

Niche 6 has the expected number of females.

WORK HISTORY OF PHYSICIANS IN NICHE 6

Compared to the total sample, physicians in Niche 6 had an average number whose first residency was in private practice, in institutional settings, and in medical schools.

Physicians of Niche 6, more than any others, gave as their reasons for leaving their first practice setting "system frustration" (red tape, regulations, etc.). They also left to find opportunities to concentrate on one or more areas of interest.

Niche 6 was highest of all the niches in choosing private practice as the second practice setting; they were also lowest in choosing institutional settings, and average in seeking medical schools.

RELATIONSHIP OF SPECIALTY TO WORK SETTING

There was no tendency for physicians of Niche 6 to see the relationship between their specialty and work setting either as interdependent or as independent of one another.

65 PHYSICIAN STATESMEN
Niche 6

ISTJ ●●●●● ●●●●● ●●●	ISFJ ●●●●●	INFJ ●●●●● ●●	INTJ ●●●●
ISTP ●	ISFP ●●	INFP ●●	INTP
ESTP ●	ESFP	ENFP ●●●●●	ENTP ●●●
ESTJ ●●●●● ●●●●● ●	ESFJ ●●●●●	ENFJ ●●	ENTJ ●●●●

CHARACTERISTICS OF PRACTICE OF PHYSICIANS IN NICHE 6

A high percentage of physicians in Niche 6 practiced in cities and metropolitan areas.

Physicians in niche 6 were typical of the entire sample in drawing from a range of patient populations, of age groups, of ethnic groups, and of both sexes.

The highest percentage of high income patients was reported by physicians of Niche 6.

Niche 6 physicians received an average number of referrals. They made more referrals to other physicians than members of any other niche.

The number of patients seen in a week was average for the physician population in this study.

Niche 6 physicians had the highest income of all physicians in all niches.

Niche 6 physicians were working in more than the typical number of settings each week, and they had the highest proportion of physicians in administration of any of the niches.

Niche 6 physicians were found in all practice organizations, private practice, institutional settings, and medical schools.

SATISFACTION OF PHYSICIANS IN NICHE 6

The Physician Statesmen were satisfied physicians; 82% were satisfied with both specialty and work setting; 5% were dissatisfied with their specialties and 13% were dissatisfied with their work settings; none were dissatisfied with both.

Of the small dissatisfied group, 11% were planning to change in the near future. Of the others, 51% said they were not dissatisfied enough to consider a change and 38% said either than change was impractical or that their present setting allowed time for their favorite non-medical activities.

These satisfied physicians described themselves as busy in medical administration, and as using their executive ability to control their own professional lives and income.

Note: This table was prepared from Table 2 and the related text in Quenk, N. L. & Albert, M., *A Taxonomy of Physician Work Settings*, Study Report #2 to the Bureau of Health Resources Development, HRA Contract No. 1-MI-24197, 1975.

Table 84
Characteristics of Niche 7: THE MEDICAL TEACHER from *A Taxonomy of Physician Work Settings*

PATTERN OF CLUSTER SCORES	Level	Mean
Personal Patient Involvement	Average	51.0
Physician Teacher	High	60.0
Personal Control of Professional Situation	Average	49.0
Medical Innovation	High	59.0
Personal Control of Income	Low	40.0
Interaction with the Medical Community	Moderately High	56.0
Professional Ambition	High	59.0

MYERS-BRIGGS TYPE INDICATOR SCORES

E 38%	S 40%	T 57%	J 72%
I 62%	N 60%	F 43%	P 28%

As predicted, Niche 7 has significantly more intuitives (ratio 1.25*), especially the science-minded -NT-'s (ratio 1.45*) and the decisive innovators (-N-J ratio 1.38*). The quadrants rank in the expected order (IN-- 1.36, EN-- 1.14, IS-- .88 and ES-- .56).

SPECIALTIES OF PHYSICIANS IN NICHE 7

The Medical Teachers had a higher percentage of primary care specialists and surgeons, an average representation of pathologists, radiologists and anesthesiologists, and few psychiatrists.

BACKGROUND AND EDUCATION OF PHYSICIANS IN NICHE 7

Medical Teachers were typical of the total sample in size of community of residence before they entered college.

Of all niches, Medical Teachers had the highest percentage of physicians who had straight, as opposed to rotating, internships, and the highest percent who had internships and residencies in medical schools.

Specialty training was obtained by 93%.

Seventeen percent changed specialties; the interval of time before changing was typical of the sample as a whole.

Niche 7 has the highest percentage of females of all seven niches.

WORK HISTORY OF PHYSICIANS IN NICHE 7

A high number of future Medical Teachers chose medical schools as their first practice settings; an average number chose institutional settings; few chose private practice.

Niche 7 physicians, more than any other niche, left their first setting because of a desire for further training, or because an obligation had been completed. They were least likely of all niches to have left for general dissatisfaction.

Niche 7 physicians more than all other niches chose medical schools for their second practice setting; more than the average number went to institutional settings; this niche was lowest of all niches in choice of private practice for second setting.

RELATIONSHIP OF SPECIALTY AND WORK SETTING

Niche 7 was highest of all niches in percent who regarded specialty and work setting as distinct aspects of their careers.

73 MEDICAL TEACHERS
Niche 7

ISTJ 00000 00000 00000 0	ISFJ 00000 0	INFJ 00000 00	INTJ 00000 00
ISTP 000	ISFP	INFP 0000	INTP 0000
ESTP	ESFP 0	ENFP 0000	ENTP 000
ESTJ 0000	ESFJ 00	ENFJ 00000	ENTJ 00000 00

CHARACTERISTICS OF PRACTICE OF PHYSICIANS IN NICHE 7

A high proportion of Medical Teachers live in cities and metropolitan areas.

Medical Teachers more than other physicians draw patients from their entire state.

The age range and sex distribution of patients is typical of the total sample.

Medical Teachers see the highest percentage of low income patients and minority patients, and the lowest proportion of white patients of any niche.

They rank high in percentage of patients referred to them, and in patients they themselves refer.

Their average patient load is lowest of all niches.

Compared to other niches, their income averages low.

They work in more settings each week than physicians of any other niche. They have the highest percentage of any niche of physicians in medical schools, and the number in institutional settings is also high. They are lowest of all niches in physicians in private practice.

They are highest of the niches in percent of work devoted to teaching and research, and lowest in percent devoted to direct patient care.

SATISFACTION OF PHYSICIANS IN NICHE 7

More than any other group, Niche 7 physicians desired their activities to remain as they were. They were satisfied with their level of involvement with patients and the medical community.

Typical of the total sample in level of satisfaction, 71% said they were satisfied with both specialty and setting. None were dissatisfied with their specialty alone, but 28% (the second-highest of any niche) were dissatisfied with their setting, and another 1% were dissatisfied with both.

Medical Teachers were second highest of the niches in plans to change settings (21%), as might be expected in light of the high mobility of faculty. Forty-three percent were not dissatisfied enough to change, and 36% said changes were impractical, or that their present setting allowed time for favorite non-medical activities. Thus, early academic interests have lasted into their careers.

Note: This table was prepared from Table 2 and the related text in Quenk, N. L. & Albert, M., *A Taxonomy of Physician Work Settings*, Study Report #2 to the Bureau of Health Resources Development, HRA Contract No. 1-MI-24197, 1975.

e. Data Analyses: Physician Satisfaction

In a series of further analyses, Quenk (1975a) identified the variables which significantly differentiated the 123 satisfied physicians whose satisfaction scores were more than one-half a standard deviation above above the group mean from the 150 less-satisfied physicians whose scores fell more than one-half a standard deviation below the group mean. Discriminant function analysis showed that satisfied physicians were more likely to report that they had contol over their own professional situation, including responsibility for defining their own duties, having time for patients of particular interest, maintaining a predictable schedule, and having satisfactory coverage when off duty. Satisfied physicians also felt close to their colleagues, interacted more with the medical community, had access to consultation, did some teaching, and felt they were respected by their peers. Family interests also entered into satisfaction, with satisfied physicians more likely to report that their settings allowed spouses to follow their own careers or interests, and provided good schools for their children. Finally, satisfied physicians seemed to feel more a part of their communities, reporting that they spent more time on non-medical community activities, and that they felt free to take time off for recreation or vacation.

Data analyses also included multiple regression in order to estimate the importance of each of these desirable components to total satisfaction. The prediction equation for the total sample of physicians accounted for only 16% of the total variance and thus had little explanatory power. The range of reported regressions for each niche, specialty or work setting was from 32% to 99% of the variance with the median at 57%. Looking at subgroups improved the ability to predict.

The weights given to the components of satisfaction differed from niche to niche, and from one specialty or work setting to another.

f. MBTI Scores in the Work Setting Data Analyses

Since the MBTI was not the central focus of the work setting studies, no attempt was made to predict to satisfaction for the 16 MBTI types, nor were characteristics grouped by the 16 types. However, Quenk conducted some additional analyses for this report, and these are reported here. Table 85 shows differences among the 16 types in percentage of time devoted to direct patient care, and in rankings of four of the seven niches for which Quenk supplied data. Feeling types tended to rank higher on patient care.

Continuous scores of the MBTI were used in regressions; points were used in discriminant functions. Type distributions were supplied us for specialties and niches. The numbers in specialties range from 18-49 and are of course too small to represent a specialty adequately. However, since these were the only data we found, we have reported them, with due caution, in some detail. We were interested in seeing how the 1973 Myers sample and the smaller current Quenk sample compared.

Table 85
Mean scores and rankings of MBTI Types for Five Variables from *A Taxonomy of Physician Work Settings*

ISTJ	Mean	Rank	ISFJ	Mean	Rank	INFJ	Mean	Rank	INTJ	Mean	Rank
PATIENT CARE	81%	11	PATIENT CARE	90%	7	PATIENT CARE	77%	12	PATIENT CARE	94%	5.5
Ambition	51	4	Patient	50	10.5	Patient	54	2	Teacher	52	3
Teacher	50	6.5	Ambition	47	13	Ambition	50	6	Ambition	49	8.5
Innovation	49	10.5	Teacher	47	14	Innovation	50	6.5	Innovation	49	10.5
Patient	45	16	Innovation	45	15	Teacher	49	9	Patient	48	14.5

ISTP	Mean	Rank	ISFP	Mean	Rank	INFP	Mean	Rank	INTP	Mean	Rank
PATIENT CARE	89%	8	PATIENT CARE	100%	2	PATIENT CARE	86%	9	PATIENT CARE	54%	16
Patient	51	6	Patient	50	10.5	Patient	50	10.5	Teacher	52	3
Teacher	50	6.5	Ambition	48	11.5	Innovation	49	10.5	Innovation	51	5
Innovation	50	6.5	Innovation	48	14	Teacher	48	11	Ambition	51	8.5
Ambition	48	11.5	Teacher	47	14	Ambition	45	14.5	Patient	50	10.5

ESTP	Mean	Rank	ESFP	Mean	Rank	ENFP	Mean	Rank	ENTP	Mean	Rank
PATIENT CARE	71%	14	PATIENT CARE	100%	2	PATIENT CARE	83%	10	PATIENT CARE	67%	15
Ambition	55	1	Patient	51	6	Teacher	50	6.5	Innovation	53	1
Innovation	52	3	Innovation	49	10.5	Patient	50	10.5	Ambition	51	4
Patient	50	10.5	Teacher	46	16	Ambition	49	8.5	Patient	51	6
Teacher	48	11	Ambition	44	16	Innovation	49	10.5	Teacher	50	6.5

ESTJ	Mean	Rank	ESFJ	Mean	Rank	ENFJ	Mean	Rank	ENTJ	Mean	Rank
PATIENT CARE	94%	5.5	PATIENT CARE	96%	4	PATIENT CARE	100%	2	PATIENT CARE	73%	13
Patient	54	2	Patient	53	4	Patient	54	2	Teacher	55	1
Innovation	52	3	Teacher	47	14	Teacher	52	3	Ambition	52	2
Ambition	51	4	Ambition	45	14.5	Ambition	49	8.5	Innovation	52	3
Teacher	48	11	Innovation	41	16	Innovation	49	10.5	Patient	48	14.5

Notes: Table gives unpublished data supplied for this report by Naomi L. Quenk.
PATIENT CARE = Percent of physicians of each type who say they are devoting their practice to Direct Patient Care.
Patient = Mean standard score of physicians of each type on Cluster #1 "Personal Patient Involvement"
Teacher = Mean standard score of physicians of each type on Cluster #3 "Physician-Teacher"
Innovation = Mean standard score of physicians of each type on Cluster #4 "Medical Innovation"
Ambition = Mean standard score of physicians of each type on Cluster 7 "Professional Ambition"

3. Comparison of Myers and Work Setting Samples for Rankings of Specialties

Table 86 shows the rankings for the 4953 physicians of the Myers 1753 follow-up, for the specialties having at least 30 physicians. Table 87 shows the comparable data for the specialty choices of the 465 physicians in the Work Setting study. For each specialty, the table shows first the total of all physicians in the specialty, followed by the number with the MBTI preference (extraverts, sensing types, etc.) Even in the large Myers sample, numbers in some specialties are very small. For truly definitive data on type differences in specialties, it will be necessary to have large enough numbers in each specialty to supply an adequate representation of the types rarely attracted to it.

The rank order correlation for the 15 specialties common to both samples is .33 for extraverts, .63 for sensing types, .51 for thinking types, and .07 for judging types. Correlations for sensing and thinking are significant at the .05 probability level. The rank order correlations comparing the 1963 and 1973 specialties of the Myers sample also showed more consistency in S and T rankings than in E and J ranings. Despite all the limitations of the two samples, therefore, there does appear to be some consistency in specialty choices, particularly in SN and TF, the two preferences considered by Myers the most relevant for career selection. (Table 3 of the Executive Summary which appears as Part VII of this report includes the rankings of the 1973 Myers sample for the four combinations of perception and judgment—ST, SF, NF and NT.

Section B of this Part of the monograph summarizes findings for each specialty.

4. Specialty Change

In the Myers sample, 963 physicians or 19% changed primary specialties between 1963 and 1973. All sixteen types changed specialties, with percentages ranging from 17% to 23%. No type made significantly more or fewer changes than the group average. Rankings of specialties in 1973 were used to represent the best estimate of specialty preference for each type. Rankings at the top of the list were considered "more typical" specialties; rankings at the bottom were considered "less typical." Each specialty change was assigned to one of four categories—"more typical" if the 1973 ranking was 3 or more positions above the 1963 ranking; "less typical" if the 1973 ranking was 3 or more positions below the 1963 ranking; "minor change" if rankings were within 2 positions of each other; and "unclassified" where one of the specialties was unranked because it contained fewer than 30 physicians.

Taking all 16 types, significantly more physicians moved toward more typical specialties (Chi Square 46.87, $p < .001$). Introverts (1.22*), intuitives (1.41***) and perceptive types (1.18*) significantly more often moved toward more typical specialties. Two types however, the practical ESTJ (.28***) and ESFJ (.41***) moved toward less typical specialties.

Table 36
Rankings of Specialties with at Least 30 Physicians in 1973 Follow-up of Myers Longitudinal Medical Study

SPECIALTY	NUMBER Total	NUMBER Pref.	PERCENT	RATIO	SPECIALTY	NUMBER Total	NUMBER Pref.	PERCENT	RATIO
EXTRAVERTS					SENSING TYPES				
Physical Medicine & Renab.	35	24	68.57	1.35*	Anesthesiology	201	118	58.71	1.25***
Diagnostic Radiology	35	21	60.00	1.18	Obstetrics & Gynecology	462	277	57.79	1.23***
Orthopedic Surgery	219	128	58.45	1.15*	General Practice	839	477	56.85	1.21***
Pediatrics	368	214	58.15	1.14**	Urology	116	65	56.03	1.19*
Therapeutic Radiology	38	22	57.89	1.14	Orthopedic Surgery	219	120	54.79	1.16*
Plastic Surgery	54	31	57.41	1.13	Occupational Medicine	74	39	52.70	1.12
Preventive Medicine	35	20	57.14	1.12	Family Practice	123	64	52.03	1.11
Otolaryngology	78	44	56.41	1.11	General Surgery	558	288	51.61	1.10*
Obstetrics & Gynecology	462	260	56.28	1.10*	Allergy	53	27	50.94	1.08
Thoracic Surgery	99	55	55.56	1.09	Ophthalmology	166	83	50.00	1.06
Occupational Medicine	74	41	55.41	1.09	Therapeutic Radiology	38	19	50.00	1.06
Urology	116	64	55.17	1.08	Otolaryngology	78	38	48.72	1.03
Neurological Surgery	48	26	54.17	1.06	Pediatrics	368	175	47.55	1.01
General Surgery	558	300	53.76	1.05	Aerospace Medicine	58	27	46.55	.99
Aerospace Medicine	58	31	53.45	1.05	Diagnostic Radiology	35	16	45.71	.97
Allergy	53	28	52.83	1.04	Radiology	232	104	44.83	.95
Ophthalmology	166	87	52.41	1.03	Dermatology	81	36	44.44	.94
Radiology	232	121	52.16	1.02	Public Health	97	42	43.30	.92
Dermatology	81	42	51.85	1.02	Gastroenterology	64	26	40.63	.86
General Practice	839	425	50.66	.99	Internal Medicine	918	371	40.41	.86***
Public Health	97	49	50.52	.99	Thoracic Surgery	99	40	40.40	.86
Gastroenterology	64	32	50.00	.98	Preventive Medicine	35	14	40.00	.85
Internal Medicine	918	441	48.04	.94*	Physical Medicine & Rehab.	35	14	40.00	.85
Cardiovascular Diseases	219	105	47.95	.94	Cardiovascular Diseases	219	86	39.27	.83*
Psychiatry	415	186	44.82	.88**	Plastic Surgery	54	21	38.89	.83
Family Practice	123	55	44.72	.88	Pulmonary Diseases	61	23	37.70	.80
Pulmonary Diseases	61	27	44.26	.87	Pathology	190	61	32.11	.68***
Anesthesiology	201	85	42.29	.83*	Neurological Surgery	48	15	31.25	.66
Child Psychiatry	91	38	41.76	.82	Neurology	82	24	29.27	.62**
Neurology	82	34	41.46	.81	Psychiatry	415	91	21.93	.47***
Pathology	190	76	40.00	.78**	Child Psychiatry	91	17	18.68	.40***
TOTAL SPECIALTIES	4953	2525	50.98	1.00	TOTAL SPECIALTIES	4953	2332	47.08	1.00
THINKING TYPES					JUDGING TYPES				
Pathology	190	125	65.79	1.21**	Preventive Medicine	35	22	62.86	1.36*
Aerospace Medicine	58	37	63.79	1.17	Allergy	53	31	58.49	1.26
Preventive Medicine	35	22	62.86	1.16	Pulmonary Diseases	61	35	57.38	1.24
Otolaryngology	78	47	60.25	1.11	Public Health	97	50	51.55	1.11
Neurology	82	49	59.76	1.10	Thoracic Surgery	99	50	50.50	1.09
Cardiovascular Diseases	219	130	59.36	1.09	Aerospace Medicine	58	29	50.00	1.08
Orthopedic Surgery	219	130	59.36	1.09	Obstetrics & Gynecology	462	230	49.78	1.07
Radiology	232	137	59.05	1.09	Internal Medicine	918	452	49.24	1.06
Pulmonary Diseases	61	36	59.02	1.08	General Practice	839	409	48.75	1.05
Anesthesiology	201	116	57.71	1.06	Physical Medicine & Rehab.	35	17	48.57	1.05
General Surgery	558	313	56.09	1.03	Urology	116	56	48.28	1.04
Urology	116	65	56.03	1.03	Pediatrics	368	176	47.83	1.03
Dermatology	81	45	55.56	1.02	General Surgery	558	263	47.13	1.02
Psychiatry	415	230	55.42	1.02	Pathology	190	89	46.84	1.01
Internal Medicine	918	508	55.34	1.02	Plastic Surgery	54	25	46.30	1.00
General Practice	839	451	53.75	.99	Anesthesiology	201	93	46.27	1.00
Obstetrics & Gynecology	462	248	53.68	.99	Diagnostic Radiology	35	16	45.71	.99
Therapeutic Radiology	38	20	52.63	.97	Family Practice	123	55	44.72	.96
Neurological Surgery	48	25	52.08	.96	Dermatology	81	35	43.21	.93
Thoracic Surgery	99	51	51.52	.95	Ophthalmology	166	71	42.77	.92
Allergy	53	27	50.94	.94	Orthopedic Surgery	219	93	42.47	.92
Child Psychiatry	91	46	50.55	.93	Gastroenterology	64	27	42.19	.91
Pediatrics	368	182	49.46	.91*	Cardiovascular Diseases	219	91	41.55	.90
Ophthalmology	166	81	48.80	.90	Neurology	82	34	41.46	.89
Family Practice	123	60	48.78	.90	Child Psychiatry	91	37	40.66	.88
Occupational Medicine	74	36	48.65	.89	Occupational Medicine	74	30	40.54	.87
Public Health	97	45	46.39	.85	Psychiatry	415	165	39.76	.86**
Plastic Surgery	54	25	46.30	.85	Neurological Surgery	48	19	39.58	.85
Diagnostic Radiology	35	16	45.71	.84	Therapeutic Radiology	38	15	39.47	.85
Gastroenterology	64	28	43.75	.80	Otolaryngology	78	30	38.46	.83
Physical Medicine & Renab.	35	14	40.00	.74	Radiology	232	89	38.36	.83*
TOTAL SPECIALTIES	4953	2695	54.41	1.00	TOTAL SPECIALTIES	4953	2296	46.36	1.00

Notes: A "specialty" refers to any specialty named by at least 30 physicians as their first, second, or third specialty in the 1973 follow-up of the Myers Longitudinal Medical Study.

Ratio = % in specialty ÷ % in total sample, (or $\text{Frequency}_{obs} \div \text{Frequency}_{exp}$).

* $p < .05$, ** $p < .01$ and *** $p < .001$.

Table 67
Rankings of Specialties and Work Setting Niches for MBTI Preferences in *A Taxonomy of Physician Work Settings*

DESCRIPTION	NUMBER Total	NUMBER Pref.	PERCENT	RATIO
EXTRAVERTS				
SPECIALTIES				
Obstetrics & Gynecology	28	15	53.57	1.33
General Practice	47	24	51.06	1.27
Orthopedic Surgery	38	19	50.00	1.24
Psychiatry	43	20	46.51	1.16
Urology	28	13	46.43	1.15
Internal Medicine	37	17	45.95	1.14
Family Practice	46	20	43.48	1.08
General Surgery	26	11	42.31	1.05
Pediatrics	43	18	41.86	1.04
All Surgeons	135	55	40.74	1.01
Ophthalmology	25	10	40.00	.99
Radiology	25	10	40.00	.99
Anesthesiology	31	7	22.58	.56*
Pathology	49	11	22.45	.56**
Neurological Surgery	18	2	11.11	.28*
WORK SETTING NICHES				
Physician Statesman	65	31	47.69	1.11
Traditional Specialist	44	20	45.45	1.06
Traditional Primary Care	71	32	45.07	1.05
Technical Specialist	48	20	41.67	.97
Service-Institutional	53	22	41.51	.97
Situational Constraint	55	22	40.00	.93
Medical Teacher	68	26	38.24	.89
TOTAL SAMPLE	465	187	40.22	1.00

DESCRIPTION	NUMBER Total	NUMBER Pref.	PERCENT	RATIO
SENSING TYPES				
SPECIALTIES				
Anesthesiology	31	20	64.52	1.23
Family Practice	46	29	63.04	1.21
General Practice	47	28	59.57	1.14
Pathology	49	28	57.14	1.09
Ophthalmology	25	14	56.00	1.07
Orthopedic Surgery	38	21	55.26	1.06
General Surgery	26	14	53.85	1.03
All Surgeons	135	71	52.59	1.01
Obstetrics & Gynecology	28	14	50.00	.96
Urology	28	14	50.00	.96
Radiology	25	12	48.00	.92
Neurological Surgery	18	8	44.44	.85
Pediatrics	43	19	44.19	.85
Internal Medicine	37	16	43.24	.83
Psychiatry	43	17	39.53	.76
WORK SETTING NICHES				
Traditional Primary Care	71	45	63.38	1.23*
Service-Institutional	53	31	58.49	1.13
Physician Statesman	65	38	58.46	1.13
Technical Specialist	48	25	52.08	1.01
Traditional Specialist	44	22	50.00	.97
Medical Teacher	68	27	39.71	.77*
Situational Constraint	55	21	38.18	.74*
TOTAL SAMPLE	465	243	52.26	1.00

DESCRIPTION	NUMBER Total	NUMBER Pref.	PERCENT	RATIO
THINKING TYPES				
SPECIALTIES				
Pathology	49	34	69.39	1.28*
Orthopedic Surgery	38	26	68.42	1.26
Neurological Surgery	18	12	66.67	1.23
Anesthesiology	31	20	64.52	1.19
Urology	28	18	64.29	1.18
Radiology	25	16	64.00	1.18
All Surgeons	135	80	59.26	1.09
Family Practice	46	23	50.00	.92
General Surgery	26	13	50.00	.92
Obstetrics & Gynecology	28	14	50.00	.92
Internal Medicine	37	18	48.65	.89
Ophthalmology	25	11	44.00	.81
Pediatrics	43	18	41.86	.77
General Practice	47	18	38.30	.70*
Psychiatry	43	16	37.21	.68*
WORK SETTING NICHES				
Technical Specialist	48	33	68.75	1.26*
Medical Teacher	68	39	57.35	1.05
Physician Statesman	65	37	56.92	1.05
Service-Institutional	53	29	54.72	1.00
Traditional Primary Care	71	37	52.11	.96
Situational Constraint	55	26	47.27	.87
Traditional Specialist	44	19	43.18	.79
TOTAL SAMPLE	465	253	54.41	1.00

DESCRIPTION	NUMBER Total	NUMBER Pref.	PERCENT	RATIO
JUDGING TYPES				
SPECIALTIES				
Anesthesiology	31	25	80.65	1.14
Radiology	25	20	80.00	1.13
Orthopedic Surgery	38	30	78.95	1.11
Pathology	49	37	75.51	1.06
Urology	28	21	75.00	1.06
All Surgeons	135	100	74.07	1.04
General Surgery	26	19	73.08	1.03
Neurological Surgery	18	13	72.22	1.02
Internal Medicine	37	26	70.27	.99
Pediatrics	43	30	69.77	.98
Ophthalmology	25	17	68.00	.96
Obstetrics & Gynecology	28	19	67.86	.96
Family Practice	46	30	65.22	.92
General Practice	47	27	57.45	.81*
Psychiatry	43	23	53.49	.75**
WORK SETTING NICHES				
Physician Statesman	65	51	78.46	1.11
Traditional Specialist	44	33	75.00	1.06
Traditional Primary Care	71	52	73.24	1.03
Medical Teacher	68	49	72.06	1.02
Technical Specialist	48	33	68.75	.97
Service-Institutional	53	34	64.15	.91
Situational Constraint	55	34	61.82	.87
TOTAL SAMPLE	465	330	70.97	1.00

Notes: Table created by CAPT from data supplied by N. L. Quenk as a supplement to *A Taxonomy of Physician Work Settings*, Quenk, N.L. & Albert, M. Report to Bureau of Health Resources Development, HRA Contract No. 1-MI-24197, 1975.

Ratio = % in specialty or niche ÷ % in total sample (or $\text{Frequency}_{obs} \div \text{Frequency}_{exp}$). Ratios for Niches based on 404 in total sample.

* $p < .05$ and ** $p < .01$.

In the Work Setting studies, 15% of physicians changed specialties. The lowest percent of change (11%) occurred in the Traditional Primary Care niche, a niche containing significantly more ES-- types. The highest rate of change occurred in the unhappy physicians of the Situational Constraint niche (27%), a niche with significantly more -N-P types; in theory, -N-P's are independent forward-looking people, constantly seeing new possibilities.

These two preliminary studies suggest that a more careful exploration of type differences in specialty change (number of changes, reasons for changes, and direction of changes) should provide valuable information for counseling medical students and physicians in career choices.

5. Specialty Board Certifications

In the 1973 Myers follow-up, physicians board-certified in each specialty were compared to all physicians of the same specialty to see if some types are more likely than others to seek certification. In general, board-certified physicians were typical of their specialties—i.e., all types in a specialty tended to be board-certified in expected numbers. There were a few differences, however. Proportionately more intuitive types were board-certified in Internal Medicine, Surgery, Psychiatry and Neurology; proportionately more thinking types were certified in Dermatology and Thoracic Surgery; proportionately more feeling types in Pediatrics and Surgery; and proportionately more judging types in Anesthesiology while perceptive types were over-represented in Internal Medicine, Ophthalmology and Urology. In all the above cases, except for Anesthesiology, Surgery and Urology, if there were differences in board certification, the typical types in a specialty were even more likely to have received board certification.

6. Professorial Appointments in Medicine

Two type groupings were expected to be over-represented among physicians holding professorial appointments in medical schools—the science-minded -NT- types and the academically-oriented IN-- types. Since these types are more frequent in some specialties than in others, there was an added interest in learning whether faculty of different specialties would have type distributions more like their own specialty, or more like university faculties.

In the Myers 1973 follow-up, physicians with professorial appointments, when compared with the total sample, had significantly more intuitive types, with IN-- (1.24***), -NT- (1.22***), -NF- (1.19***) and EN-- (1.16***) all significantly overrepresented in the professors. Types more likely to hold professorial appointments were INTP (1.31***), INTJ (1.29**), ENFP (1.23*) and ENTJ (1.21*). Unlikely to be teaching were ESTJ (.60***), ISFJ (.62**), ISFP (.63**). ISTJ (.74*) and ISTP (.76*). In the main, professors tended to be typical of the specialties they taught. However, Internal Medicine and General Surgery had more intuitives than their specialties, and Pediatrics had even more feeling types in professors than in their specialty where feeling types predominate.

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In the Work Setting Studies, both intuition and thinking were significantly associated with Cluster 4: Physician Teacher; I, N and T were characteristic of physicians in the Medical Teacher niche.

7. Membership in Medical Specialty Societies

Of the 4953 physicians of the Myers sample follow-up of 1973, 74% belonged to at least one medical specialty society. Our prediction that extraverts would join more societies than introverts proved wrong. The spontaneous extraverts (E--P types) were more likely to have joined (1.15***) and the decisive extraverts (E--J) were less likely to join (.96**). There were no significant differences between spontaneous and decisive introverts. The percentage of extraverts belonging to one society was 49.6%, to two societies, 51.8%, to three societies, 55.3% and to four or more societies, 56.4%. Thus, there was a consistent, though not statistically significant, trend for extraverts to have joined more societies. Intuitive types were more frequent in the 4+ societies group (1.22***). An incidental, but theoretically interesting finding if confirmed, was that the two types which in theory are most likely to be joiners, ESFJ and ENFJ, were overrepresented in the 4+ society group (ESFJ 1.39, ENFJ 1.76*). With very few exceptions, members of specialty societies represented the type distributions of their specialties.

8. Type of Practice

As noted earlier in this report, the theoretical expectations of type in medical practice were that direct patient care would attract relatively more S and F types, administration T and J types, teaching I and N types, and research I, N and T types.

a. Direct Patient Care

Both sensing and intuitive types are found in large numbers in direct patient care. In both 1963 and 1973, relatively more sensing types in Myers' sample were in direct care. Using the 1963 categories, full time general or specialty practice had more E (1.03*), more S (1.06**), and more of the patient-oriented -SF- types (1.09**). General practice with some specialty had more S (1.22**), especially -ST- (1.34*) and -S-J types (1.38**). In 1974, direct patient care had relatively more sensing types (1.04***).

Part III of this Monograph reported on the fact that sensing types among medical students have relatively greater interest in direct patient care. In the Work Setting studies, sensing types saw more patients per week, and reported spending more time on habitual or non-varying activities. The Traditional Primary Care niche had the highest preference scores for sensing, followed by the Service-Institutional niche.

The evidence is consistent, therefore, that sensing types have a relatively greater likelihood to give direct patient care. It is important not to go beyond this fact, however, to conclude that intuitive types are disinterested in patient care. If this were the case, there would be cause for concern about future delivery of medical services, since the proportion of intuitive types among medical students appears to be increasing. The fact is, however, that large numbers of intuitive types are providing direct patient care; in some settings, they are in the majority. Because intuitives tend also to be interested in teaching, research, and areas of new challenge, however, they are *relatively* less interested in the day-to-day activities of direct care than are their colleagues who prefer sensing perception. This issue will be discussed in more detail in Part V.

b. Administration

In 1963, 30 young physicians in Myers' sample were classified as administrators; signficantly more I's and N's were among them. Ten years later the number in administation had risen to 206; by this time the decisive innovators were significantly found in administration (-N-J 1.36**). The flexible and persuasive ENFP's accounted for 12% of administrators in 1973; no ENFP's had been in the 1963 group.

The issue of administration appears in some items of the Work Setting studies. Organizational administration was associated with T, and "supervision and/or teaching of medical students and medical personnel" was associated with NT. Actual supervision, however, was associated with F. In working with administrators, we have found that thinking types are most challenged by administration at a financial or systems level, while feeling types are challenged by the tasks of facilitating interpersonal communication and of solving "people problems."

It appears from our data thus far that administration in medicine attracts innovative people who enjoy finding order in complex systems. It may be that in mid-career many innovative types who are motivated to seek new solutions to bring about change are entering administration. These are types found in administration in business and education; medicine may have proportionately more innovators, however.

c. Medical Teaching and Medical Research

As would be expected from data already given on professorial appointments, medical teaching attracts N types. An interesting shift occurred in the Myers sample. In 1963, medical teachers had more of the academic IN-- types (1.29**) and of the enthusiastic and insightful -NF- types (1.38**). By 1973, IN-- types were still teaching (1.30**) but the weight had shifted from the humanistic -NF-'s to the more science-minded -NT-'s (1.38**). Medical research attracts many of the same types as are found in medical teaching. In both 1963 and 1973 the IN-- types (1.76*** and 1.73***) and the -NT- types (1.65*** and 1.58***) were working in research settings. In 1973, INTJ (2.35***) and INTP (1.70**) were particularly likely to have chosen research.

In the Work Setting studies, Medical Innovation scores were significantly higher for N and T types.

One of the most consistent findings, across medical research studies and in other professions, is that teaching and research at advanced levels are particularly attractive to the thoughtful and innovative IN-- types and to the logical and ingenious -NT-'s. While all 16 types are found in medical education and research, these types are most likely to be found in these activities. Evidence from other professions suggests that intuition is the most powerful of the three preferences (I, N and T), lending an interest in seeing new patterns (which is useful in research), and in seeing meanings and relationships (which is useful in teaching). Given the increasing number of intuitive types in medical schools, there should be no shortage of physicians concerned with the science of medicine, and with the education of the next generation.

9. Professional Employment

Type differences were found in both type of practice and in practice settings. However, they are not clearcut or easily interpretable.

a. Practice Arrangements

(1) Solo Practice. Forty percent of Myers' physicians were in solo practice in 1973; all types were found in approximately the expected numbers, though there were somewhat more practical and matter-of-fact -ST-'s (1.08*) and fewer academic IN-- types (.94*). In Quenk's Work Setting sample, chosen to give a balanced representation of all settings, 52 physicians or only 9% were in solo practice. There were no statistically significant type differences. In the regression equation predicting satisfaction for solo practice, MBTI preferences entered the equation with these Beta weights: feeling .22, extraversion .20, judgment .11 and intuition .04.

(2) Partnership. Twenty percent of Myers' physicians were in partnership arrangements. Sensing types were more likely to be found in partnerships (54%, ratio 1.14***), including both extraverts (ES-- 1.11*) and introverts (IS-- 1.18**). Feeling types were also found in partnerships (1.06*), especially the sympathetic and friendly -SF- group (1.23***); the science-minded -NT-'s were underrepresented (.84***). Twenty percent of the Work Setting sample (94 physicians) were in partnerships, with no statistically significant type differences. In the regression equation predicting satisfaction with partnership, MBTI variables entering into the equation, with their Beta weights were extraversion (or rather, a weaker preference for introversion, since partners were 61% introverts, Beta weight .17), judgment .14, thinking .12 and intuition .05.

(3) Group Practice. Fourteen percent of the Myers sample were in

group practice. Extraverts with sensing were attracted to groups (ES-- 1.18**) but introverts with sensing were not (IS-- .86*). All four I--J types were underrepresented (.81**). Twenty percent of the Work Setting sample was in group practice; the only significant difference was the avoidance of group practice by I--P types (.43*). There were few similarities between the Myers and Quenk samples. Quenk computed two regression equations, one for satisfaction in small groups and one for satisfaction with large group practice. In the small group equation which included physicians in same specialties and mixed specialties, only 32% of the variance was accounted for, and MBTI variables entered very little—introversion .04, and intuition .02. In the equation for large groups which accounted for 39% of the variance, MBTI variables and their Beta weights were feeling .22, sensing .16, perception .06 and introversion .03.

(4) Non-Group Arrangements accounted for 3% of the Myers sample. The practical introverts who avoided group practice were found more often in non-group practice arrangements (IS-- 1.43**). The Work Setting sample had 7% of physicians in solo practice with some non-group arrangement; science-minded -NT- types were underrepresented in this category (.31*).

b. Medical School

As would be expected from the earlier data on medical research and and teaching, Myers' physicians working in medical schools (6% of the 1973 sample) were more likely to be introverts (1.16**), and intuitive types (1.26***), with IN-- types significantly more often found in medical school (1.41***) and ES-- types less frequent (.60***). Thirteen percent of the Quenk sample worked in medical schools. Ratios for introverts (1.08) and intuitives (1.14) were in the expected directions but not statistically significant. There were significantly more --TP types (1.97**) and fewer -SF-'s (.45*). MBTI variables associated with satisfaction for medical school faculty were less extreme scores on thinking .25, judgment .16, introversion .09 and intuition ,09, in an equation which accounted for 27% of the total variance.

c. Hospital Employment and Service with Government Programs

Forty-two percent of those physicians in the Myers sample who were employed by hospitals worked in non-government hospitals. The tough-minded --TJ's were significantly attracted to non-government hospitals (1.41***) and also to state hospitals (1.78***), and Veterans Administration hospitals (1.27*), as were the decisive and innovative -N-J's (1.47***, 1.62* and 1.78*** respectively). The patient-oriented sympathetic and friendly -SF- group were less frequently found in hospital employment (Non-Government .61*, State .43* and Veterans Administration .49*). Executive types, therefore, were most drawn to hospital employment.

> There were no statistically significant differences in the Work Setting study's small samples of physicians working in hospitals, nor were there enough cases in either Myers' or Quenk's research to draw conclusions about military hospitals or the United States Public Health Service. In a later study, however, Quenk (1976) computed predictive equations to determine the likelihood that medical students in AMSA experiential projects would later enter specific work settings. The equation predicting choice of work in a government institution accounted for 41% of the variance; MBTI variables and their Beta weights were N .14, E .13, F .04 and P .01. The equation predicting work in a government-sponsored health program accounted for 41% of the total variance; MBTI variables and their Beta weights were N .11, F .10, P .10 and E .07. The equation predicting choice of the United States Public Health Service accounted for 41% of the variance; MBTI variables were N .17, P .11, F .07 and E .07. Finally, the equation predicting preference for the National Health Service Corps accounted for 41% of the variance with MBTI preferences entering as N .13, F .12, P .09 and E .01. These are all small effects, but in this AMSA sample extraversion, intuition, feeling, and the perceptive attitude, or E, N, F and P were associated with government-sponsored practice settings. These preferences were only partially representative of the total sample which was 61% I, 56% N, 54% F and 64% J. The data appear to show that action-oriented change agents are more likely to select these programs than practical and down-to-earth practitioners.

In summary, there are statistically significant differences in types choosing and avoiding practice arrangements and work settings. All types appear in all settings and practice arrangements, and significant differences are few. There are clear indications that direct patient care attracts relatively more sensing types, and medical education and research, relatively more introverts, intuitives and thinking types. Hospitals attract more of the administrative types, and government programs (non-hospital) may be attracting more idealistic and innovative types. Since sensing types are relatively more attracted to direct patient care, it is not surprising to find more of them in solo practice and partnerships; there is a little evidence that practical extraverts are more likely to be found in group practice, and practical introverts in solo practice, partnerships, or solo practice with some non-group arrangement. These preliminary findings require further verification as they are all small effects and highly tentative.

It may well be that it will be much less useful to discover which types choose or avoid a given type of practice or work setting, than to discover why each type makes these choices and how satisfied they are with the outcomes. Since there are established type differences in specialty choice, and since specialties may well differ in their practice arrangements, the best strategy appears to be to study specialties and include a close look at type differences in practice arrangements for each specialty. If the same types use the same strategies and make similar choices across specialties, then we can have more confidence in using this knowledge for planning programs and for counseling students and physicians.

B. Type Differences in Medical Specialties

This section gives highlights of type differences in General Practice and medical specialties. The data come primarily from the 1973 follow-up of the Myers Longitudinal Study, based on information from the AMA Physician Masterfile. To acquire its information, AMA asks physicians to rank their three most important specialties, and to estimate time spent on each. In reporting 1st, 2nd and 3rd preferences, AMA uses the % of time to establish rankings, not the physician's preference.

In our data analyses we looked at type differences (a) in primary specialty and (b) in all physicians mentioning the specialty at all, whether it was ranked 1st, 2nd or 3rd. In almost every case, differences significant with analyses (a) were also significant with (b); the (a) differences tended to be greater. Since we were primarily interested in type differences in physicians' interests, we chose to report findings in terms of analyses (b). Because this is a baseline descriptive study, we included all specialties named by 30 or more physicians. Of course, data from specialties named by few physicians should be considered highly tentative.

In reporting specialties, General Practice and Family Practice are discussed first, followed by the Medical Specialties, the Surgical Specialties, and the Other Specialties, in the conventional AMA groupings.

For each specialty, we first describe the percentages of the four MBTI preferences EI, SN, TF and JP and note any cases where the specialty ranks in the top or bottom five on any preference. Significant differences in type groupings or individual types are given next with ratios from the Selection Ratio Type Tables. As in the rest of this report, ratios greater than 1.00 indicate that more of the type are attracted to the specialty, and ratios less than 1.00 indicate more of the type are avoiding the specialty. Significance tests are based on Chi Square or Fisher's Exact Probabilities, and levels of significance are denoted by *, **, and *** for probabilities of .05, .01 and ,001 respectively. Small type tables are inserted to highlight significant patterns. The symbol "+" indicates a trend toward the specialty and the symbol "-" indicates a trend toward avoidance.

If data are available, specialty board certifications are next discussed. The research question asked was, "Are all types in a specialty equally likely to be board certified?" Where data exist, professorial appointments and specialty society memberships follow, in the same format.

For the 15 specialties of the Work Setting study, data on type distributions and physician satisfaction are given after discussion of the Myers' data.

To save space, we do not state that data are unavailable each time we omit any of the categories above.

In reading the sections that follow, it is important to remember that all 16 types appear in all specialties. We do not yet have solid information on either satisfaction or competence in specialties which would warrant

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either encouraging a student or physician to enter the specialty, or to avoid it. The type differences found, in the main, make sense, in light of the theoretical framework we are using. The evidence to be presented is sufficient to suggest that a more intensive look at type differences in medical specialties will produce important information of practical use.

1. General Practice

ST	SF	NF	NT	
+	+	-	-	IJ
+	+	-	-	IP
+		-	-	EP
+	+	-	-	EJ

In the 1963 follow-up of Myers sample, 1010 physicians were in General Practice; by 1973 the number had dropped to 839. Type distributions were similar at both periods—E 50% and 51%, S 56% and 57%, T 54% at both times, and P 54% and 51%. General Practice ranked third highest in S types, 5th highest in -ST-'s and 6th highest in -SF-'s. As predicted, sensing types were significantly attracted to General Practice (1.21***), with three types significantly over-represented (ISFJ 1.30*, ISFP 1.35* and ESTJ 1.40***). No intuitive type had a ratio greater than 1.00; two types significantly were under-represented (ENTP .71* and ENTJ .69*). In the table above, no entry appears for ESFP. The reason for the omission is that the ratio (.91) is in the opposite direction for the ES-- group (1.21***) and the -SF- group (1.18**). In this table and in tables that follow, if any type goes counter to the trend of a type grouping, it will be omitted from the symbols that show the trend for the entire group.

In the Physician Work Setting studies, Quenk reported on 47 General Practitioners, who were E 50%, S 60%, F 62% and J 57%. Compared to the total Work Setting sample, General Practitioners had significantly more sympathetic and friendly -SF-'s (1.80***), practical and spontaneous -S P's (2.54***), more gentle --FP's (1.79**), and more active realists (ES-- 1.73*). As would be expected, General Practitioners (and Family Medicine physicians) were most likely to be assigned to the "Traditional Primary Care Niche and were seldom found in the Technical Specialist, Traditional Specialist or Medical Teacher niches.

When the 15 satisfied General Practitioners were compared with the 14 dissatisfied General Practitioners, satisfied physicians had a stronger preference for extraversion on the MBTI. In other variables, satisfied physicians said they interacted more with the medical community, sharing patient responsibility and talking over doubts and frustrations. They were more likely to add some variety to their daily routine be providing care outside their major setting and by supervising or teaching students and residents. Although they delegated more tasks than the dissatisfied physicians, they reported greater patient involvement overall, more attention to emergency problems, more time explaining diagnoses and treatments, and more control over the time they devoted to patient care.
In a second analysis of satisfaction, the regression equation accounted for 68% of the total variance. MBTI loadings were S .48, E .40 and F .23. Other loadings greater than .20 were Interaction with the Medical Community .62, Lack of Professional Ambition .57, living in a smaller

community .40, earning a larger income .38, acting as Physician-Teacher .34, and devoting some energy to Medical Innovation .22.

In a later study (Quenk 1976) of medical students who participated in experiential projects of the AMSA Foundation, the regression equation to predict choice of Family Practice or General Practice showed MBTI F with the largest Beta weight .17, plus other MBTI preferences S .07, E .02 and P .02 appearing as well to add slightly to the total variance of .40.

The Myers and Quenk studies support each other in finding that, as predicted, General Practice attracts sensing types, extraverts, and feeling types. In theory, E, S and F should be associated with practice with high patient involvement (E and F), and an enjoyment of handling a variety of familiar problems requiring straightforward solutions (S).

2. Family Medicine

This comparatively new and rapidly changing specialty was of special interest to us, for theoretical as well as practical reasons. If Family Medicine is mainly concerned with the application of general medical skills to families, then we predicted it would attract sensing types, especially the -SF- types whom we expected to have high interest in hands-on patient care.

ST	SF	NF	NT	
+	+			IJ
	+			IP
			-	EP
	+			EJ

If, on the other hand, Family Medicine is conceptualized as that branch of medicine which will integrate the science of medicine, the art of medicine, and the psychological and social influences which impact on families and individuals, then we expected Family Medicine would attract large numbers of the psychologically-oriented -NF- physicians. To the extent that Family Medicine is seen as breaking new ground or pioneering, then it should attract intuitive types who are attuned to new possibilities, particularly the -NF- types who have a particular interest in the behavioral sciences.

In 1973, 123 of the Myers physicians gave Family Medicine as their specialties, but 171 physicians were board-certified in Family Practice. The specialty sample of 123 was not significantly different in type distribution from the total sample. The board-certified group had 54% I, 55% S, 52% F and 53% J. Compared to the total sample, Family Practice had relatively more sensing types (1.17*), more sympathetic and friendly -SF- types (1.30*) and more organized and concerned --FJ types (1.32*). The science-minded -NT- types were significantly underrepresented (.74*). The American Academy of Family Physicians had 534 members in the Myers sample, of whom 60% were sensing types; this was the highest percentage of S types for any specialty society.

In the Work Setting studies, there were 46 Family Practitioners of whom 57% were I, 63% S, 50% T and 65% J. Compared to the total sample, the physicians in Family Practice had significantly more active realists (ES-- 1.77*) and fewer decisive intuitives (-N-J .40*). As would be expected, most Family Physicians fell into the Traditional Primary Care Niche.

In the analyses of physician satisfaction, 21 Family Physicians were classified as more satisfied, and 23 as less satisfied. The dissatisfied physicians had a stronger preference for introversion (mean continuous score 116) than the satisfied physicians whose mean score was 98. In the regression equation predicting to satisfaction, MBTI preferences and their Beta Weights were E .35, J .22 and T .18.

In these small samples, Quenk found relatively more introverts in Family Practice (57%) than in General Practice (49%). A greater preference for extraversion was associated with satisfaction in both Family and General Practice.

Although satisfied and dissatisfied Family Practitioners did not differ significantly in the number of patients seen each week, satisfied Physicians reported feeling they had better control over their time, had time to counsel patients, and had more time to keep up with new developments, try new things, and do some teaching. Satisfied physicians were somewhat younger (mean age 43) than dissatisfied ones (mean age 49).

In 1975 Quenk and Heffron reported in a sample of 91 Family Practice program directors and 85 Family Practice residents. The MBTI preferences for program directors and residents respectively were 53% E and 55% I, 51% S and 71% S, 60% F and 56% T and 77% J and 68% J. In this sample, residents had significantly more sensing types (1.17**) than faculty, as might be expected, and more thinking types (1.18*), as might not be expected.

In 1977 this project made composite type distributions of residents, faculty, practicing physicians, and a grand total, for all physicians, in the CAPT data bank or reported to us, who were involved in Family Medicine. Quenk and Heffron commented that their sample was too preliminary and too small to represent Family Medicine. The same can be said of this sample, which is by no means a planned representative sample of this growing field. A number of programs are beginning to use the MBTI with Family Practice residency programs, and with some coordination representative data should be possible to obtain in the next several years.

In these highly preliminary data, we found 251 physicians in Family Medicine (including the 171 board-certified physicians of the Myers sample), 206 residents, 132 faculty including program directors, and 59 unclassified physicians who could not be assigned to the other three groups, but who were in Family Medicine. The MBTI preferences for the groups were:

	N	EI	SN	TF	JP
Residents	206	51% I	53% S	57% F	60% J
Faculty	132	52% E	52% N	59% F	75% J
Physicians	251	54% I	54% S	55% F	57% J
Composite	648	51% I	51% S	57% F	61% J

From these somewhat larger samples, it appears that the Quenk faculty sample may be more representative than her resident sample. In the current data, the only significant difference between residents and faculty is that the faculty includes significantly more judging types (1.14**). It is typical in all fields to find more judging types in samples largely composed of administrators.

The composite sample of all 648 physicians in Family Medicine has significantly more sensing types than the sample of medical students (1.30***).

Figure 15 shows the MBTI combinations of perception and judgment for the Quenk and Heffron sample and for the composite sample. All groups are found in Family Medicine, with relatively fewer science-minded -NT- types and relatively more -SF-'s in residents and -NF-'s in faculty.

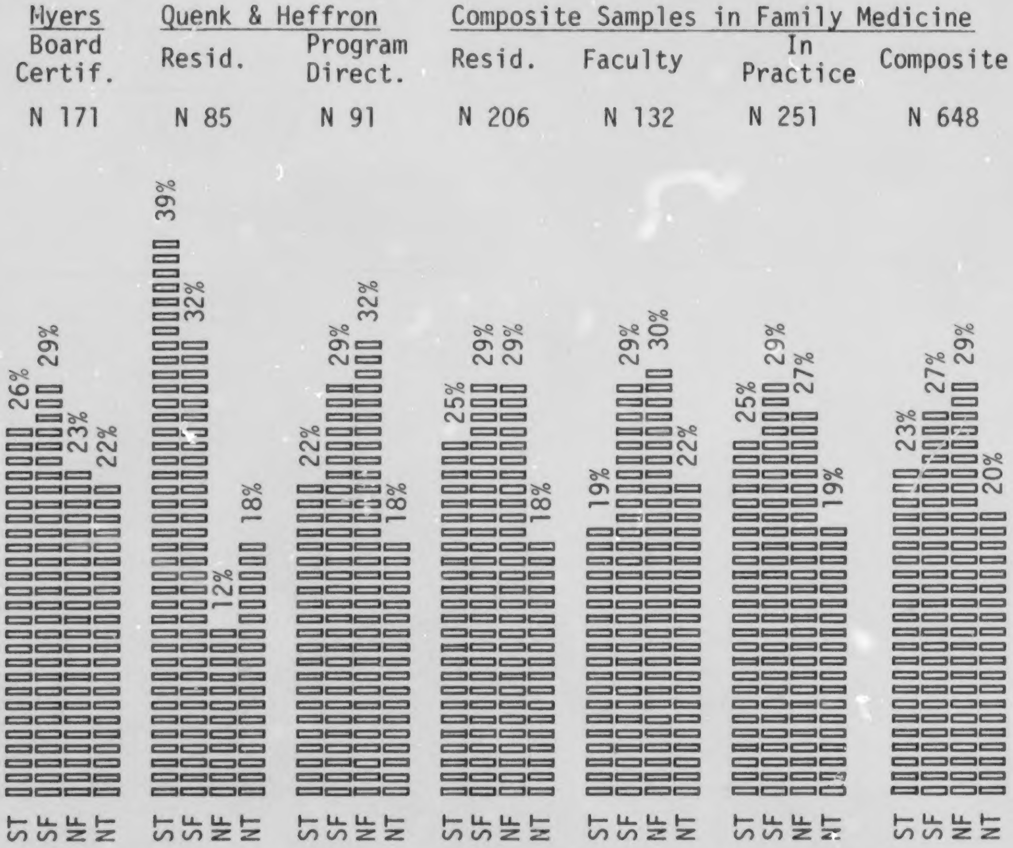

Figure 15
Combinations of Perception and Judgment for Family Medicine

In summary, all types enter Family Medicine in substantial numbers. Although relatively more sensing types enter Family Medicine, the numbers of sensing and intuitive types are approximately equal. As would be expected, feeling types are in the majority, and it may be that extraverts find the field more satisfying. In the Work Setting studies, Quenk found more sensing types among Family Practitioners , but the tasks that gave satisfaction were more typical of intuitives. Since we have no truly representative samples, as yet, it is difficult to draw any solid conclusions from these data.

In our view, Family Medicine at present needs large numbers of physicians interested in integrating the complexities of the art of medicine, the science of medicine, and the behavioral sciences. It also needs large numbers of physicians interested in taking these facts as they are established, and applying them to the day-to-day problems of giving good patient care to families. Our prediction is that the next few years will see a body of information accumulated to guide practitioners in Family Medicine. As this becomes better established, we predict that the proportion of sensing types will increase, particularly the -SF- types. When the time comes that Family Medicine no longer has the lure of unsolved problems, great complexity, and of being on the cutting edge, then the proportion of intuitives will start to decline. While many will continue to see Family Medicine as the branch which permits the greatest integration of knowledge and the greatest challenge to understanding, other intuitives will see the field as becoming "routine" and will move to whatever areas at that time offer the greatest challenge. If we are correct in this view, it is useful to know that at this stage Family Medicine has good representation of all types; innovators and implementers can both add valuable input toward establishing a solid base for this specialty.

Because of the importance of understanding what attracts each type to Family Medicine, and what gives each type satisfaction, it would be valuable to have a study patterned after the Work Setting study, with a representative sample of Family Practice residents and physicians. It would be particularly useful to know whether training programs with different missions are attracting—or having greater success with—residents of different types. Research on type differences in Family Medicine can be practical for program planning, and for counseling of medical students and physicians.

3. Medical Specialties: Allergy

Allergy was reported as a specialty by 30 physicians of the Myers sample in 1963, and by 53 in 1973, when there were 53% E, 51% S, 51% T and 58% J. Allergy ranked second among specialties in the proportion of judging types, and first among the sympathetic and friendly -SF- types. Relatively fewer psychologically-oriented -NF-'s were attracted to this specialty which ranked fourth lowest on the list.

ST	SF	NF	NT	
				IJ
				IP
-		-	-	EP
+	+		+	EJ

There are no significant differences among introverts who enter this specialty. In both 1963 and 1973, the decisive extraverts (E--J) were attracted to Allergy (1.84* and 1.56*), while the perceptive extraverts (E--P) avoided it (.74 and .51*). The proportion of extraverts dropped from 1963 (63%) to 1973 (53%) but in these small samples the trend is not significant. One type, ESFJ, was significantly attracted to Allergy (2.53**). The American Academy of Allergy has 43 of the Myers sample as members; compared to the 3665 in the sample belonging to at least one specialty society, the Academy has significantly more sociable and friendly -SF- types (1.58*). Only two physicians in the sample were board certified in Allergy and Immunology. This specialty, in light of these very preliminary data, appears to attract physicians who like quick and decisive action.

4. Medical Specialties: Cardiovascular Diseases

In 1963, 83 of the Myers sample listed Cardiovascular Diseases as their specialty; by 1973 the number was 219, with I 52%, N 61%, T 59% and P 58%. COmpared to the total sample, this specialty had significantly more intuitive types (1.15*), particularly INFP (1.70**), INTP (1.34) and ENTJ (1.58*). The sympathetic and friendly -SF- types tended to avoid this specialty (.69*), particularly ISFJ (.29*).

ST	SF	NF	NT	
	-	-		IJ
		+	+	IP
				EP
	-	-	+	EJ

American College of Cardiology members (79) were typical of their specialty, except that significantly more intuitive types belonged (75%, ratio 1.23***).

Between 1963 and 1973, the type distribution for Cardiovascular Diseases shifted to move it closer to Internal Medicine. The specialty appears to attract physicians who enjoy dealing with a great deal of complexity and who enjoy the science as well as the art of medicine.

5. Medical Specialties: Dermatology

The Myers sample had 66 Dermatologists in 1963 and 81 in 1973, of whom 72 considered Dermatology their primary specialty, and 61 were board certified. In 1973 Dermatologists were 52% E, 56%N, 56% T and 57% P.

ST	SF	NF	NT	
+	-			IJ
+	-			IP
+	-			EP
+	-			EJ

There were no statistically differences in the type distribution of Dermatologists when compared to the total sample. However, those whose primary specialty was Dermatology had significantly more practical and matter-of fact -ST- types (1.51*) and fewer sympathetic and friendly -SF- types (.54*) than the total sample. An unusual pattern of selection ratios may be worth watching when larger samples are collected. This specialty may attract physicians with two quite different types of interests—a practical and matter-of-fact group who are likely to stress the highly differentiated recognition of lesions and rashes, (-ST- ratio 1.23) and a psychologically-minded group who are more likely to approach treatment via the emotions, such as by ventilating hostility (-NF- 1.31).

There were significantly more thinking types (1.12*) in the board-certified Dermatologists than expected from the total group. The 61 members of the American Academy of Dermatology appear to by typical of the physician sample.

From this very small sample, Dermatology appears to be a specialty attractive to all types in medicine, and possibly especially to the straightforward and technical physicians in the -ST- types.

6. Medical Specialties: Gastroenterology

ST	SF	NF	NT	
-			-	IJ
				IP
				EP
-			-	EJ

The number of Gastroenterologists in the Myers sample rose from 31 in 1963 to 64 in 1973, with 35 physicians claiming Gastroenterology as their primary specialty. The 64 Gastroenterologists were 50% E, 59% N, 56% F and 58% P. The 1973 distribution is much more similar to Internal Medicine than was the 1963 distribution. The 1973 sample ranked second in proportion of feeling types among all specialties. Compared to the total physician sample, Gastroenterology had significantly fewer of the tough-minded --TJ types (.59*). It is obviously premature to try to characterize this specialty on the basis of this small sample.

7. Medical Specialties: Internal Medicine

ST	SF	NF	NT	
-	-	+	+	IJ
-	-	+	+	IP
-	-	+	+	EP
-			+	EJ

In 1963 812 physicians of the Myers sample were in Internal Medicine, with 918 in 1973. The type distributions at the two periods were similar, and in 1973 there were 52% I, 60% N, 55% T and 54% P. Internal Medicine attracted significantly more introverts (1.06*), and intuitives (1.13***). Among intuitives, there were significantly more science-minded -NT-'s (1.16***), decisive -N-J's (1.22***) and academic IN--'s (1.22***). Three types were especially attracted to Internal Medicine, INFJ (1.46**), INTJ (1.36**), and ENTJ (1.24**). Four types significantly avoided Internal Medicine, ISFJ (.70*), ESTP (.75*), ESFP (.73*) and ESTJ (.77*).

Of the 918 Internists, 473 were board certified. Intuitive types (1.09**) and perceptive types (1.10**) were significantly more likely than their colleagues to have attained board certification, especially the -N-P group (1.16***). The thoughtful and innovative IN-- types who are attracted to Internal Medicine are significantly more likely to be board certified (IN-- 1.10*). One type was more likely than its peers to be board-certified (ENTP 1.33*) and three were less likely to be so (ISTJ .72*, ISFP .59* and ESTJ .64*). This is the only specialty to have a large enough sample to confirm the hypothesis that types attracted to a specialty will be significantly more likely to become board-certified than types whose interest is less.

Pofessorial appointments were listed for 275 physicians in Internal Medicine. Compared to all Internists, intuitive types, as predicted, were significantly more likely to hold professorial appointments (1.12**), particularly the science-minded -NT-'s (1.17*). Unlikely to hold professorial appointments were the conservative and thorough -S-J's (.74**) and IS--'s (.67**). The spontaneous extraverts (E--P) were significantly less likely to choose Internal Medicine (.89*); however, those who did choose this specialty were more likely than their peers to be board certified (1.16**) and to hold professorial appointments (1.18*).

Only 268 physicians were listed as members of the American Society of Internal Medicine and these members were somewhat atypical of their specialty. Significantly more extraverts (1.13*) and sensing types (1.26**) were members; they may exert a more action-oriented and practical influence than is typical of the specialty as a whole.

The Quenk Work Setting study had 39 Internists, of whom 37 took the MBTI. There were 54% I, 57% N, 51% F and 70% J. (It will be remembered that the Myers study had a majority of P, and the Quenk study a majority of J. This difference tends to carry through all specialties.) The preferences for I and N were consistent with those of the Myers sample, but no differences were statistically significant in this small group.

In the Satisfaction aspects of the Work Setting studies, Internists were divided into 19 satisfied and 20 dissatisfied physicians. A large number of items differentiated the two groups, a fact which Quenk attributes partly to the great variety of settings and patient populations associated with this specialty. Differences can be summarized in the facts that satisfied Internists felt they had more control over their professional situation, more chance for dealing with complex diagnostic issues and for innovation, more interaction with their colleagues, and more professional prestige. Increased income was not associated with satisfaction, a finding which may come from the fact that satisfied internists were younger, but which may also come from the fact that activities associated with [illegible] high income could leave little time for other challenges which were important to the satisfied group. In the regression equation predicting [illegible] satisfaction, the only MBTI variables entering the equation were feeling and extraversion, with Beta weights of .30 and .08 respectively.

Both Myers and Quenk provide data suggesting that Internal Medicine attracts intuitive types who, in theory, enjoy problems with great complexity and constant challenges. Physicians with a strong preference for intuition should be happiest in situations with constant new challenges and a minimum of repetitive decisions. Quenk's satisfaction data support this expectation. As more intensive studies of subgroups within Internal Medicine are carried out, we predict that important differences will be found among Internists who prefer sensing and the majority who prefer intuition; within the intuitives, we also can expect differences between those whose preference for intuition is very strong, and those with a more moderate preference. We predict that Internists with stronger preference for intuition will gravitate to—and be most satisfied in—settings with more challenge and variety, and may choose the subspecialties which have a high proportion of referrals of difficult cases. We predict that the sensing types in this specialty will move into styles of practice with more characteristics of direct patient care; these Internists may look more like physicians in Family Medicine of General Practice. This diversified specialty, with its subspecialties, provides an area where research on type differences could have immediate practical benefit for career counseling of physicians as well as medical students.

8. Medical Specialties: Pediatrics

The Myers sample had 343 Pediatricians in 1963 and 368 in 1973, of whom 302 called Pediatrics their primary specialty. There were few changes during the decade, with E changing from 57% to 58%, N from 50% to 52%, F from 53% to 51% and P from 54% to 52%. Pediatrics ranked fourth highest among specialties in proportion of extraverts. Compared to the total sample, Pediatrics had significantly more extraverts (1.14**) and feeling types (1.11*). The practical and dependable -S-J's are attracted to Pediatrics (1.17*), especially ESFJ (1.50**).

ST	SF	NF	NT	
	+	-	-	IJ
-	+	-	-	IP
	+	+	+	EP
+	+			EJ

The 294 board-certified Pediatricians are not significantly different in type from the total Pediatrics sample, except that proportionately more feeling types became board-certified (1.06*). In 1973 118 of the sample held professorial appointments. Feeling types among the Pediatricians were more likely to hold professorial appointments (1.16*), especially the --FJ's who are most likely to want to make their values count in the world (1.33*). The 253 Pediatricians who belonged to the American Academy of Pediatrics were similar in types to the total group. The 40 female Pediatricians were distributed similarly to the total Pediatrics sample. Forty-three female Pediatricians were certified in Pediatrics; compared to other Pediatricians there were more J (1.38*), particularly -N-J (1.78*) and -F-J (1.58*), and fewer -S-P (.37*).

The Work Setting sample had 43 Pediatricians who were 58% I, 56% N, 58% F and 70% J. Both samples have a majority of feeling types in Pediatrics, as would be expected, but the Work Setting Pediatricians had more introverts and judging types in Pediatrics, as in the entire study sample.

The only significant difference in the distribution of Pediatricians was the attraction of this specialty for ISFJ (1.97*). When Quenk compared 21 satisfied and 21 dissatisfied Pediatricians, she found few large differences. Dissatisfied Pediatricians found many more aspects of their practices lacking and wished them to be more characteristic (30 items compared to 13 items for more satisfied Pediatricians.) Satisfied Pediatricians had been in their settings less time (5 years compared to 8 years), worked more closely with their colleagues and felt more professional recognition. In the regression equation which accounted for only 35% of the total variance, MBTI preferences associated with satisfaction, and their Beta weights, were N (.29), T (.16) and J (.07). In physician satisfaction, Quenk found Pediatrics to be among the specialties with high patient demand where satisfied Pediatricians maintain some control over patient load and the total professional work demands.

No analysis was conducted in the Myers data for Pediatric Cardiology (8 physicians) or Pediatric Allergy (18 physicians) because of their small numbers. Allergists had more sensing types (61%) and Cardiologists more intuitive types (75%), showing the same directions as their larger specialties.

Pediatrics can be expected to attract many types of physicians—those who enjoy the day-to-day routines of health maintenance, and those who like the challenge provided by a developing organism in a complex family structure. The most consistent finding is that this specialty appeals particularly to feeling types who, in theory, enjoy the human problems presented by medicine, and may be especially attuned to the wants of patients, even before these can be expressed in logical terms.

9. Medical Specialties: Pulmonary Diseases

ST	SF	NF	NT	
+			+	IJ
			+	IP
-	-	-	+	EP
			+	EJ

The number of specialists in Pulmonary Diseases in the Myers sample was 11 in 1963, and 61 in 1973, only 17 of whom claimed Pulmonary Diseases as their primary specialty. This specialty had 56% I, 62% N, 59% T and 57% J. It ranked 5th among all specialties in the percentage of introverts, and 3rd in the percentage of judging types. Pulmonary Diseases ranked 4th among the science-minded -NT-'s (1.45*), near Neurology, Pathology, Psychiatry, Thoracic Surgery and Cardiovascular Diseases.

This small sample of physicians interested in Pulmonary Diseases has significantly more tough-minded --TJ's (1.42*), particularly the INTJ's (2.02*). It is avoided by the spontaneous extraverts (E--P .57*) except for ENTP.

The sample is too small for understanding this specialty, but it seems to attract physicians who like complexity and tough-minded objectivity.

10. Surgical Specialties: General Surgery

ST	SF	NF	NT	
+				IJ
+	+	-	-	IP
+	+	-	-	EP
+				EJ

Myers had predicted that the skill-in-action ES-- types would have a special affinity for surgery. They were significantly attracted to General Surgery, both among the 495 General Surgeons of 1963 (1.17*) and the 558 in 1973 (1.16*). The distribution of 1973 General Surgeons showed 54% E, 52% S, 56% T, and 53% P. The practical and matter-of-act -ST- types, who are expected to have interests and skills in using equipment, were also attracted to General Surgery (1.18**). The perceptive intuitives avoided it (-N-P .87*). The 38 black males who were General Surgeons, when compared with all General Surgeons, had even more -ST- types (1.87***) and more decisive and practical -S-J's (2.18***). When General Surgeons were compared to a sample of all 1057 surgeons in all surgical specialties, General Surgeons again had more -ST-'s (1.09*).

In 1973 402 Surgeons were board-certified in Surgery. Not all of these were General Surgeons. Compared to General Surgeons, the sample of board-certified Surgeons had more N (1.11***), and fewer -ST- types (.81***). INTJ (1.23*) and ENFJ (1.24*) were more likely to be certified, and ISTJ (.68***) and ESFP (.75*) less likely to be so. Thus, the more typical General Surgeons were slightly less likely to have become board-certified.

Compared to the 558 practicing General Surgeons, the 102 physicians teaching General Surgery had more intuitive types (1.24*), mainly -NT- types (1.29*). Twenty-two percent of physicians teaching General Surgery were -ST- types, significantly fewer than their numbers among practicing surgeons (.73*). While intuitives tend to be in the majority in graduate teaching in most fields, surgery is a specialty where the skills of intuitives—dealing with materials at an abstract, theoretical or symbolic level—may be less appropriate than the skills of sensing types—dealing with materials at a highly differentiated and tangible level. Sensing types in theory should be particularly adapted to teaching at the operating table, not in the classroom. If further research continues to show that the most typical General Surgeons are less likely to be teaching their specialty, then more research can be directed to learning whether teaching could be improved by a shift in types giving the instruction. Our data suggest too much current emphasis on scientific aspects of surgery and too little attention to the detailed clinical teaching of the operating room.

The Work Setting studies had 26 General Surgeons, with 58% I, 54% S, 50% T and 73% J. Their type distribution did not differ significantly from the total sample. Most General Surgeons were classified in the Traditional Specialist or the Physician Statesmen Niches.

Significant differences between the 13 satisfied and 14 dissatisfied

General Surgeons showed that satisfied surgeons were more likely to prefer sensing on the MBTI. Although the predominant types were I, N and J, the regression equation indicated that satisfied General Surgeons had less extreme scores on these variables. Other variables related to satisfaction were seeing more patients, but being less personally involved with them, earning a larger income, but not managing it personally, and having a greater opportunity to interact with and achieve recognition from colleagues.

11. Surgical Specialties: Neurological Surgery

The Myers sample had 43 Neurological Surgeons in 1963 and 48 in 1973. In 1973, Neurological Surgeons were 54% E, 69% N, 52% T and 60% P. This was the 4th ranking specialty in percentage of intuitives, ranking next to Neurology. It also ranked 4th in percentage of perceptive types. This specialty ranked 5th from the last of specialties preferred by sympathetic and friendly -SF- types. Compared to the total sample, Neurological Surgery significantly attracted intuitives (1.30*), particularly the -N-P types (1.50*).

ST	SF	NF	NT	
			+	IJ
		+	+	IP
		+	+	EP
				EJ

Forty physicians were board-certified in Neurological Surgery. The distribution is not significantly different from that of all Neurological Surgeons. The type distributions of the 32 members of the Congress of Neurological Surgeons and the 32 members of the American Academy of Neurological Surgeons are not significantly different from the entire group of Neurological Surgeons.

The Work Setting studies included 18 Neurosurgeons, with 89% I, 56% N, 67% T and 72% J. Compared to the total Work Setting sample, the Neurosurgeons had significantly more introverts (1.49*), particularly IN-- types (2.02*). Because of the small numbers, Quenk did not report an analysis of satisfaction of Neurosurgeons.

The Myers and Quenk studies are consistent in showing that Neurological urgery, in contrast to General Surgery, is attractive to intuitive types. These preliminary samples show Neurological Surgeons to be independent-minded physicians with a strong interest in understanding complex interrelationships.

12. Surgical Specialties: Obstetrics & Gynecology

In 1963 424 of Myers' physicians were in the specialty of Obstetrics and Gynecology; in 1973 there were 462, with 56% E, 58% S, 54% T and 50% P. This specialty ranked 2nd of all specialties in preference for sensing and 3rd among the practical and matter-of-fact -ST- types (1.35***) it ranked last among the -NT-'s (.68***). Compared to all physicians

ST	SF	NF	NT	
+			-	IJ
+			-	IP
+	+	+	-	EP
+			-	EJ

in the 1973 follow-up, Obstetrics and Gynecology had significantly more introverts (1.10*) and sensing types (1.23***). Three types, ISTJ (1.59***), ESTJ (1.41**) and ESFP (1.38*) were significantly attracted to this specialty, and one type significantly avoided it (INTP .42***).

The distribution of the 351 physicians board-certified in Obstetrics and Gynecology was not significantly different from that of the total specialty. The 67 physicians holding professorial appointments were also typical of their specialty. Compared to other physicians with professorial appointments, professors of Obstetrics and Gynecology have significantly more sensing types (1.40*). Thus this specialty differs from General Surgery, in having more of the typical types doing the teaching.

The 317 members of the American College of Obstetricians and Gynecologists were also typical of all physicians in this specialty.

The Work Setting studies included 28 specialists in Obstetrics and Gynecology, with 54% E, 50% S, 50% T and 68% J. The type distribution was not significantly different from that of the total Work Setting sample. The Work Setting sample had more psychological-minded -NF- obstetricians (32%) than the Myers sample (22%). In comparing the 10 satisfied to the 18 less satisfied physicians, significant differences revolved around style of life factors, as might be expected in a specialty whose hours and demands are relatively unpredictable. Satisfied physicians had high income, saw relatively fewer patients with whom they had less personal involvement, and had more control over their professional activities and their leisure time. MBTI preferences for feeling and judging entered into the regression equation predicting satisfaction, with beta weights of .87 and .13 respectively.

Obstetrics and Gynecology is a fascinating specialty from the point of view of psychological type theory, because its tasks call on opposing processes which are unlikely to be highly developed in the same person. Onstetrics, like Pediatrics, has a special opportunity for promoting psychological and physical health, because these two specialties see very large numbers of healthy people, often in times of normal life crises where intervention can have greater probability of influencing change. Pregnancy and its crises are times when psychological support can prevent later difficulties for mothers and families. Thus, obstetrics calls on many skills of the -NF- types. Labor and delivery are normal events which may often be "managed" best by waiting and support, the --FP attitudes. Sudden crises can occur which require rapid action at high technical skill, qualities of E--J and -ST-. Finally, the care of the gynecological patient has its demands for psychological support, as in the sex education function often associated with this specialty, and for diagnosis and surgical intervention in treatment of tumor. In short, this specialty calls on -STJ qualities for the technical skills of surgery, and -NFP for the sensitivity to psychological issues. If Myers data are typical, more Obstetricians and Gynecologists have come from the technical types, and these are the types most likely to be conservative about change, to be somewhat authoritarian in patient care, and to be least sensitive to psychological nuances of events. With today's pressure from women for more understanding of their problems, it will not be surprising to see increasing numbers of -NF- types entering this specialty—the Work Setting sample may reflect such a trend.

13. Surgical Specialties: Ophthalmology

In 1963 the Myers sample included 145 Ophthalmologists; in 1973 there were 166, with 52% E, 50% S, 51% F and 57% P. There were significantly fewer tough-minded --TJ's (.75*) than expected. One type, ISFJ was significantly attracted to Ophthalmology (1.67*), as were the sympathetic and friendly -SF- group (1.32*).

ST	SF	NF	NT	
-	+		-	IJ
+	+			IP
+	+			EP
-	+			EJ

Eighty-four percent (139) of Ophthalmologists were board certified. The spontaneous extraverts were more likely to be certified (E--P 1.14**), as were the spontaneous thinking types (--TP 1.14**). Less likely to be certified were the decisive extraverts (E--J .80***). Two types, ISFJ (1.79*) and ESFP (1.70*) were more likely to have passed Ophthalmology boards, and one type, ESTJ (.33*) was unlikely to have done so. It is interesting to note that ISFJ and ESFP are patient-oriented types for whom a perceptive process is dominant in their personalities, a combination which might attract to a field concerned with perception.

The Anerican Association of Ophthalmology had 39 members in the 1973 Myers sample, and the American Academy of Ophthalmology and Otorhinolaryngology had 197 members. Members of the Association were 45% E, 54% S, 64% F and 62% P, giving this society slightly more --FP types. The Academy had 52% E, 51% N, 51% T and 63% P, making it slightly more science-oriented than the Association.

The Work Setting studies had 25 Ophthalmologists, with 60% I, 56% S, 56% F and 68% J. The -SF- types were again overrepresented (1.48) but not significantly so. The spontaneous practical -S-P types were over-represented (2.38*) with the greatest effect coming from ISFP (4.65) and ESFP (3.38).

Ophthalmology was one of the few specialties in the study where MBTI variables ranked as high predictors of satisfaction; beta weights were J .60, N .56 and F .41. The 29 satisfied Ophthalmologists differed from the 20 dissatisfied ones in seeing more patients and having personal patient involvement; they also had time for other professional activities, and were ambitious professionally.

These very preliminary data on Ophthalmologists show that this specialty attracts a wide range of types of physicians. Because it is a surgical specialty with high patient contact, future studies may also show it is more attractive to feeling types. It should be useful to learn more about type differences in preference for the varied activities of this specialty. There may well be differences in types attracted primarily to eye surgery and the types who enjoy prevention and health maintenance.

14. Surgical Specialties: Orthopedic Surgery

ST	SF	NF	NT	
+		-	-	IJ
+		-		IP
+	+	+	+	EP
+	+	-		EJ

In 1963 there were 197 Orthopedic Surgeons in the Myers sample. In 1973 the number had increased to 219, with 58% E, 55% S, 59% T and 58% P. Orthopedic Surgery ranked 3rd among all specialties in the percentage of extraverts, 5th in percentage of sensing types, 4th among the practical and matter-of fact -ST-'s, and 3rd lowest in the rankings of the psychological minded -NF- types. Compared to the total sample, Orthopedic Surgery has significantly more E (1.15*), S (1.16*) and more of the type groupings ES (1.31**), E--P (1.25*), and -ST- (1.24*); there were significantly fewer -NF- (.72*), -N-J (.59**) and IN-- (.73*).

The 187 board-certified Orthopedic Surgeons had a similar type distribution to the total sample of Orthopedic Surgeons. The 33 Orthopedic Surgeons with professorial appointments were not significantly different from the total distribution; however, intuitives were in the majority (58%) and the ratio for the academic IN-- types was 1.51. The 174 members of the American Academy of Orthopaedic Surgeons were typical of the total specialty.

The Work Setting Studies had 38 Orthopedic Surgeons, with 50% E, 55% S, 68% T and 79% J. There were no significant differences between the distribution of Orthopedic Surgeons and that of the total sample. In the regression equation predicting satisfaction for Orthopedic Surgeons, beta weights for MBTI preferences associated satisfaction with sensing (.57) and judging (.21).

Orthopedic Surgery, like General Surgery, Obstetrics and Gynecology, and Ophthalmology, appears to attract sensing types.

15. Surgical Specialties: Otolaryngology

ST	SF	NF	NT	
				IJ
+		-	+	IP
			+	EP
				EJ

In 1963 the Myers sample had 70 Otolaryngologists, and in 1973, 78, with 56% E, 51% N, 60% T and 62% P. In the rankings of the specialties, Otolaryngology ranked 4th among thinking types and 2nd among perceptive types. The spontaneous thinking types, except for ESTP, are attracted to this specialty (1.38*).

From this small sample, it appears that some types are attracted both to Ophthalmology and to Otolaryngology. Ophthalmology may, however, attract more patient-oriented types, and Otolaryngology more types interested in technical aspecis of medicine. It will take considerably larger samples to be able to say anything definite about these two related specialties.

16. Surgical Specialties: Plastic Surgery

ST	SF	NF	NT	
-	-	+	+	IJ
-	-			IP
		+	+	EP
				EJ

The Myers sample had 31 Plastic Surgeons in 1963, and 54 in 1973, with 57% E, 61% N, 54% F and 54% P. Plastic Surgery ranked 4th among specialties in the proportion of feeling types.

Four types are significantly attracted to this specialty. These are the four types with intuition as a dominant function (1.63**) INFJ, INFJ, ENFP and ENTP. Avoiding the specialty are the solid and practical IS-- (.34*). Plastic Surgery attracts types who can see good reasons for surgery to improve the patient's possibilities, but not the types who are concerned with immediate and practical necessity.

Thirty-four Plastic Surgeons were board certified, and 41 were members of the American Society of Plastic and Reconstructive Surgery. In both cases, there were no significant differences in type distributions compared to the total Plastic Surgeon sample.

Plastic Surgeons, from these early data, are closer to Neurological Surgeons than they are to Orthopedic Surgeons or Obstetricians. They are an action-oriented specialty concerned with possibilities.

17. Surgical Specialties: Thoracic Surgery

ST	SF	NF	NT	
-		+	+	IJ
-			+	IP
-				EP
		+	+	EJ

Myers sample had 31 Thoracic Surgeons in 1963, and 99 a decade later, with 56% E, 60% N, 52% T and 51% J. Although evenly divided on JP, this specialty ranks 5th among specialties in the percentage of judging types. Types combining intuition and judging are attracted to this branch of surgery (-N-J 1.49*). The practical and matter-of-fact -ST- types who were attracted to Obstetrics and Orthopedic Surgery avoid Thoracic Surgery (.64*).

The 74 board-certified Thoracic Surgeons included significantly more thinking types (1.13*) than their peers. There were significantly more logical and ingenious -NT- types than expected in the membership of the American Thoracic Society. Thoracic Surgeons are more similar in types to Neurological and Plastic Surgeons than to other surgeons.

18. Surgical Specialties: Urology

The Myers sample had 99 Urologists in 1963 and 116 a decade later, with 55% E, 56% S, 56% T and 48% J. Urology ranked 4th among all specialties in percentage of sensing types. Urology has significantly more sensing types (1.19*) than expected from the total sample.

ST	SF	NF	NT	
+	+	-	-	IJ
+	+	-	-	IP
+				EP
+				EJ

Despite the fact that extraverts outnumber introverts in Urology, the significant differences are among the introverts. Urology has significantly more realistic introverts (IS-- types 1.39*) and significantly fewer innovative introverts (IN-- types .54**). ISFP is significantly attracted to this specialty (1.92*). Urology is unusual in the number of significant differences when the 88 board-certified Urologists are compared to the total sample of Urologists. Perceptive types were more likely to to have passed specialty boards (1.16**), especially the practical perceptives (-S-P 1.19*) and the extraverts (E--P 1.19*). The serious I--J's (.72**) and the tough-minded --TJ's (.77**) were less likely to be board-certified.

The 48 members of the American Urological Association also included more than the expected number of spontaneous extraverts (E--P 1.53**).

Urology is closer to Obstetrics, Orthopedic Surgery, Ophthalmology, and General Surgery, than to Neurological, Plastic and Thoracic Surgery.

19. Comparison of Medical Specialties and Surgical Specialties.

The theoretical expectation for differences between medical and surgical specialties was that medical specialties would attract more I and N types, and that surgical specialties would attract more types with E, S and T.

A sample of 1233 physicians on medical specialties, and 1514 in surgical specialties from the Myers 1973 follow-up was used to test this prediction. The composite of surgical specialties included, not only the specialties listed above, but also a group of specialties with too few physicians for analysis—4 Abdominal Surgeons, 10 Cardiovascular Surgeons, 15 Colon and Rectal Surgeons, 9 Hand Surgeons, 3 Head and Neck Surgeons, 3 Pediatric Surgeons, and 5 Traumatic Surgeons.

Primary surgical specialties had significantly more E (1.08***) and S (1.13***). There were signifncantly more than the expected number of ES-- types (1.16***) and fewer IN-- types (.77***). Medical specialties attracted relatively more N (1.08***), particularly IN--(1.10*) and -N-P types (1.08*). There were fewer than the expected numbers of the practical and detail-minded IS-- types (.85***), -ST- types (.88**) and -S-P types (.83***). ES-- types were found in medical specialties in the expected numbers.

Medical

	ST	SF	NF	NT
IJ	−	−	+	+
IP	−	−	+	+
EP	−		+	+
EJ	−			

The groupings, therefore, support the predictions of the differences in attractiveness of medical and surgical specialties. However, data presented on the specific specialties have shown that each has its own characteristic pattern of the types attracted to it, or avoiding it.

Surgical

	ST	SF	NF	NT
IJ	+		−	−
IP	+	+	−	−
EP	+	+		
EJ	+			

There appear to be two major groupings of surgical specialties. Sensing types who in theory should prefer careers where problems can be dealt with straightforwardly by direct action are relatively more attracted to General Surgery, Abdominal Surgery (based on the fact that members of the American Society of Abdominal Surgeons have more ES-- types 1.37* , and -ST- types 1.52**), Obstetrics and Gynecology, Orthopedic Surgery and Urology. Intuitive types, who in theory like problems to be complicated and subtle, are relatively more attracted to Neurological Surgery, Plastic Surgery, and Thoracic Surgery. The small samples of the Work Setting studies are consistent with the Myers data.

Despite that fact that all 16 types appear in all specialties, the trends are in the theoretically-expected direction. One would predict from type theory that when tensions arise between the two groups, the surgeons are more likely to be accused of being too impulsive (E) and too simplistic (S), while those in medical specialties are more likely to be accused of being too theoretical, or too prone to complicate matters which are, in essence, perfectly straightforward (N).

20. Other Specialties: Aerospace Medicine

	ST	SF	NF	NT
IJ	+			+
IP				+
EP				
EJ	+			+

In 1963 24 physicians in the Myers sample gave Aerospace Medicine as their specialty; in 1973 the number was 58, with 53% E, 53% N, 64% T and 50% J. This specialty ranked second in percentage of thinking types, and first in proportion of practical and matter-of-fact -ST- types.

The tough-minded --TJ types were significantly attracted to Aerospace Medicine (1.43*). These types are the most frequent in Engineering. Aerospace Engineering is attractive to -NT- types rather than -ST- types, and to introverts more than extraverts. It is therefore interesting to note that 7 of the 21 who considered Aerospace Medicine their primary specialty were INTJ or INTP.

21. Other Specialties: Anesthesiology

ST	SF	NF	NT	
+	+			IJ
+	+			IP
		-	-	EP
		-	-	EJ

Myers had predicted that Anesthesiology would attract introverts with sensing—introverts because of their longer attention span, and sensing types because of their interest in events transpiring in the present. The Myers sample had 166 Anesthesiologists in 1963 and 201 in 1973. In 1973, 58% of Anesthesiologists were I (1.18*), 59% were S (1.25***), 58% were T (1.06) and 54% were P (1.00). Anesthesiology ranked 4th in percentage of introverts, and first among sensing types. Among introverts, the sensing types were attracted to Anesthesiology (IS 1.65***), but not the intuitives (IN .80). Extraverts were less likely to be attracted to this specialty (ES .90, EN .76*). Anesthesiology ranked second among specialties for sensing types with feeling (-SF- 1.36**) and last among intuitives with feeling (-NF- .53***).

Three types were significantly attracted to Anesthesiology—ISFP (2.01***), ISTP (1.85**) and ISFJ (1.70*).

The judging types among the 201 Anesthesiologists were more likely to be found among the 119 who were board-certified (1.14*). Compared to the total group, introverts were somewhat more likely to belong to the American College of Anesthesiologists (89 members, 61%, ratio 1.05), to the American Society of Anesthesiologists (172 members, 61%, 1.06*), and the International Anesthesia Research Society (78 members, 63%, 1.09). These societies tended to attract members in the expected numbers, except that, as might be expected, more thinking types joined the International Anesthesia Research Society (1.16*).

In the Work Setting studies, 32 physicians were Anesthesiologists, with 77% I, 65% S, 65% T and 81% J. Eighteen, or 58%, were in the IS-- types (1.66**). Ratios were ISTJ 1.97**, ISTP 1.25, ISFP 1.88.

There were few statistically significant differences between the 15 satisfied and 16 dissatisfied Anesthesiologists. The regression equation predicting satisfaction accounted for 62% of the variance. The highest weighted variable was associated with being less strongly introverted (beta weight .99). Anesthesiology and Ophthalmology were the only two specialties where a MBTI variable carried highest loading on the regression equation. Other variables with beta weights greater than .20 associated with satisfaction were lower income (.77), seeing fewer patients (.72), interacting with the medical community (.58), exerting less personal control over the professional situation (.55), preferring sensing perception (.48) and judging (.40), living in a smaller community (.40), being relatively unambitious professionally (.37), doing some teaching (.24) and personally controlling professional income (.24).

One of the theoretically important characteristics of sensing types is their ability to enjoy the little pleasures of everyday life; this ability can give sensing types a more fin-loving and less ambitious view of life. Today's pleasures are too important to be sacrificed for some nebulous value of the future. The Anesthesiologists of the Work Setting studies seem to be a group who kept their contacts with the medical community, but who did not allow themselves to be so overwhelmed by patient care that they sacrificed other life pleasures.

22. Other Specialties: Neurology

Section 11 showed that Neurological Surgery attracted the independent-minded -N-P types. The Myers sample had 59 Neurologists in 1963 and 82 in 1973, with 59% I, 71% N, 60% T and 58% P. The main difference between Neurologists and Neurological Surgeons is that Neurology attracts more introverts and Neurological Surgery, more extraverts.

ST	SF	NF	NT	
-		+	+	IJ
-		+	+	IP
-				EP
-			+	EJ

Neurology ranked first among the science-minded -NT- types (1.62***) and next to last among practical and matter-of-fact -ST- types (.49**). Neurology ranked 2nd among specialties in the percentage of introverts, 3rd in intuitives, and 5th in thinking types. It had significantly more IN-- types (1.65***) and -N-P types (1.43*), and was avoided by ES-- types (.62*). The two types with dominant thinking supported by intuition were significantly attracted to Neurology (INTP 1.98** and ENTJ 2.01*).

Neurology and Neurological Surgery attract types also interested in Psychoatry and Internal Medicine. The 215 physicians with specialty board certification in Psychiatry and Neurology had significantly more introverts (1.20**) and intuitive types (1.58***) than the total physician sample. The type distribution of the 52 members of the American Academy of Neurology was not significantly different from the sample of Neurologists.

The Work Setting studies included 18 Neurosurgeons, with 89% I (1.49*), 56% N, 67% T and 72% J. This small sample had significantly more IN-- types than expected, based on their frequency in the total sample (2.02*) and there were also significantly more INTJ's (2.79*). Quenk did not report separately on Neurologists.

The Myers and Quenk studies are consistent in showing Neurology and Neurological Surgery attractive to intuitive types, particularly when intuition is combined with thinking, or with the perceptive attitude. These specialties attract independent-minded academic types, who should find much in common with medical researchers and teachers. Judging solely from the types attracted to it, one would deduce that Neurology requires understanding of a very complex system (N) which can best be understood in terms of cause-and effect (T).

23. Other Specialties: Nuclear Medicine

	ST	SF	NF	NT
IJ				
IP	+			
EP	–	–	+	+
EJ	–	–		

Only 29 physicians listed Nuclear Medicine as their specialty in the 1973 Follow-up of Myers sample, but 64 physicians were members of the Society of Nuclear Medicine. The specialists were 62% E, 76% N (1.73*), 52% F and 69% P. The two extraverted types with dominant intuition were attracted to this field (ENFP 2.63** and ENTP 3.01**). Nuclear Medicine seemed to attract -NF- types (1.75*) but not the tough-minded --TJ's (.26*) nor the pragmatic ES--'s (.27*). Members of the Society of Nuclear Medicine have a more diverse representation of types, including the --TP group (1.40*).

Among engineers, Nuclear Engineering attracts more intuitive types (1.44**) and thinking types (1.31**) (McCaulley, 1976).

Based on these very preliminary findings, Nuclear Medicine seems to attract physicians who like to be in the very forefront of knowledge (N), where applications can be made to real problems (E).

24. Other Specialties: Occupational Medicine

	ST	SF	NF	NT
IJ	–	+		–
IP				
EP	+			
EJ	–			–

The 1973 Myers sample included 74 physicians in Occupational Medicine, with 55% E, 53% S, 51% F and 59% P. The only significant difference of this small sample from the total is in the underrepresentation of the tough-minded --TJ types (.61*); however, two types were significantly attracted to Occupational Medicine, ISFJ (2.02*) and ESTP (2.06*).

Occupational Medicine is the fifth-ranking specialty among the sympathetic and friendly -SF- types, and is fifth from the end of the list among the science-minded -NT- group. From these preliminary findings, Occupational Medicine seems to attract physicians oriented to primary care and practical life problems.

25. Other Specialties: Pathology

	ST	SF	NF	NT
	+			+
	–	–	+	+
	–	–	–	
	–	–		

In 1963, the Myers sample had 163 Pathologists; in 1973 the number had risen to 204, including 6 Clinical Pathologists and 8 Forensic Pathologists. The total sample had 60% I, 67% N, 65% T, and 53% P. Pathology ranked first among specialties in the proportion of introverts, 5th among intuitives, and 1st among thinking types. This specialty ranked 3rd among the -NT- types, next to Neurology and Psychiatry. Pathology significantly attracted introverts (1.22**), intuitives (1.27***) and thinking types (1.20**). The types combining these preferences, INTJ (1.96***) and INTP (1.89***) were attracted to Pathology; ISTP (.33*), ESFP (.35*) and ENFP (.50*) avoided Pathology.

The 163 Pathologists who were board certified were not significantly different from the total Pathologist sample. Professorial appointments were held by 54 of the group, with 69% I, 76% N, 70% T and 56% P. The ratios for IN (1.27) and ES (.63) were in the predicted directions, but not significantly different.

The International Academy of Pathology had 40 members in the Myers sample, the College of American Pathologists, 123, and the American Society of Clinical Pathologists, 156. The type distributions of all three societies do not differ significantly from that of their specialty.

The Work Setting studies had 49 pathologists, with 78% I, 57% S, 69% T, and 69% J. Compared to the total sample, Pathology had significantly more introverts (1.30**) and thinking types (1.28*). ISTJ was attracted to Pathology (2.11***), but not INTJ (1.28) or INTP (.68), the types attracted to Pathology in the Myers data.

In the analysis of satisfaction, 29 satisfied Pathologists were compared to 20 dissatisfied Pathologists. The effect of type differences was very small in explaining satisfaction; perception (.14) and intuition (.09) entered the equation last with low beta weights.

In an exploratory study, Bowling (1973) compared Medical Technologists and Pathologists from Florida. Her sample of 54 Pathologists had 56% I, 56% S, 70% T and 67% J. Myers, Quenk and Bowling agree that Pathology attracts introverts and thinking types. On SN and JP the Bowling sample is midway between the older Myers sample and the practice-oriented Quenk sample. Bowling found that directors of hospital laboratories services had the expected number of introverts (57%), while extraverts were in the majority (67%) in the 15 directors of private laboratories. Seven of the 15 directors came from the two extraverted thinking types who tend to be management-oriented (E-TJ 1.94*). Pathologists were asked to rank qualities a good Pathologist should possess. They gave the highest ranking to "logical," followed by "observant" and "organized." Lowest rankings went to "sympathetic", "sociable" and "quiet."

Pathology attracts physicians who are relatively uninterested in high levels of patient contact (E and F), but rather prefer work that takes quiet and concentration (I) and analytical thinking (T). Future studies will clarify the differences in the Myers samples compared to the Quenk and Bowling samples on SN and JP. Our prediction is that Pathologists who prefer sensing will be found more often in settings with fairly repetetive analyses, and Pathologists preferring intuition will be found in settings where analyses are more challenging or complex. It will be interesting to see whether judging types will be found more often in administrative or management positions, as is the case in other fields. It is also possible that Clinical Pathology will attract the relatively few extraverts who enter this specialty. In our data thus far, Pathology is one of the specialties whose distributions of types are close to theoretical expectations.

26. Other Specialties: Physical Medicine and Rehabilitation

A small group of 35 physicians gave their specialty in 1973 as Physical Medicine and Rehabilitation. They were 69% E, 60% N, 60% F and 51% P. This specialty ranked highest in percentage of extraverts of any specialty. It had significantly more decisive extraverts (E--J 1.69*) and more active innovators (EN 1.79**), but the decisive introverts who found Pathology appealing avoided Physical Medicine and Rehabilitation (I--J .27*).

ST	SF	NF	NT	
-	-	-	-	IJ
				IP
		+	+	EP
+	+	+	+	EJ

The sample of 19 physicians board-certified in Physical Medicine and Rehabilitation was similar to the total group, except that the number of extraverts was even higher (79%).

Physicians in this specialty seem, from these preliminary data, to be a group which likes an active, organized and somewhat innovative approach to medical problems. Their distribution is fairly similar to that of Allergists and Orthopedic Surgeons.

27. Other Specialties: Preventive Medicine

Only 36 physicians listed General Preventive Medicine as their specialty in the 1973 follow-up of Myers sample. They were 57% E, 60% N, 63% T and 63% J. Preventive Medicine ranked 3rd among specialties in thinking types, and 1st in judging types. The tough-minded --TJ types were attracted to this specialty (1.62*) as were the active and innovative EN-- group (1.56*). Significantly under-represented were the sympathetic and friendly -SF- types (.26*) and the perceptive introverts (I--P .31*). Forty physicians were board certified in Preventive Medicine (52% E, 65% N, 55% T and 52% P.) These preliminary data suggest that Preventive Medicine attracts action-oriented physicians (E) who like to manage systems that take into account future consequences of present conditions (T and J).

ST	SF	NF	NT	
+	-		+	IJ
-	-	-	-	IP
	-	+	+	EP
+	-	+	+	EJ

28. Other Specialties: Psychiatry

Psychiatry, like Pathology and Anesthesiology, has a clear attraction for a limited number of types. There were 306 Psychiatrists in the Myers sample in 1963, and 511 in 1973, with 56% I, 79% N, 54% T and 60% P. Psychiatry is significantly attractive to introverts (1.13**), intuitive types (1.49***) and perceptive types (1.12**). The 91 Child Psychiatrists were similar in type distribution to the total Psychiatry sample.

ST	SF	NF	NT	
-	-	+	+	IJ
-	-	+	+	IP
-	-	+	+	EP
-	-	+	+	EJ

In the rankings of all specialties, Child Psychiatry ranked 3rd and Psychiatry 7th among introverts, 1st and 2nd among intuitive types, and 7th and 5th among perceptive types. These two specialties ranked in the bottom three of the practical and matter-of-fact -ST-s and the sympathetic and friendly -SF-'s; they ranked in the top three for the enthusiastic and insightful -NF-'s and the top 5 for the logical and ingenious -NT-'s. These rankings are very similar to those for Clinical Psychology and for other health professions concerned with psychological understanding of patients.

Compared to the total Myers sample, 6 of the 8 intuitive types were significantly attracted to Psychiatry (INFP 1.86***, INTP 1.66***, ENTP 1.50**, ENFJ 1.42*, INTJ 1.37* and ENFP 1.32*), and all sensing types but ISTJ (.67) significantly avoided Psychiatry.

When the 215 physicians board-certified in Psychiatry & Neurology were compared with the total sample of Psychiatrists, significantly more intuitives (84%, 1.06*) were certified, particularly the science-minded -NT-'s (1.16**) and most particularly INTP (1.35**). ENFJ (.59*) and ESTJ (.42*) psychiatrists were less likely to be certified.

Professorial appointments were held by 115 psychiatrists; even in this specialty with large numbers of IN-- types, more than the expected numbers held professorial appointments (IN-- 1.20*).

The 334 members of the American Psychiatric Association were typical of their specialty.

The Work Setting studies included 43 Psychiatrists, with 53% I, 60% N, 63% F, and 53% J. Psychiatrists, when compared to the total Work Setting sample, had significantly more feeling types (1.38*) and perceptives (1.60**). All 16 types were represented in Psychiatry, with more than the expected numbers of INFP (2.50*) and fewer ISTJ's (.11**).

Most Psychiatrists fell in the Traditional Specialist Niche, and were unlikely to fall in the Technical Specialist Niche, the Physician Statesman Niche, or, surprisingly, the Medical Teacher Niche.

In the regression equation predicting to satisfaction of Psychiatrists, more satisfied Psychiatrists had a stronger preference for feeling (beta weight .35), preferred intuition and perception, but with less extreme scores (beta weights .26 for each), and preferred introversion (beta weight .26).

Other variables associated with satisfaction in Psychiatrists were higher income, living in larger communities, professional ambition, personal patient involvement, and medical innovation.

Psychiatry, like other psychologically-oriented health professions, is attractive to those interested in meanings and relationships (N) of ideas (I), and where the major effort is directed toward understanding (P), rather than controlling events.

29. Other Specialties: Public Health

ST	SF	NF	NT	
	+	+		IJ
–	–	+		IP
–	–	+		EP
	+	+		EJ

In 1973 97 physicians from the Myers sample were in Public Health, with 51% E, 57% N, 54% F and 52% J. Public Health ranked 5th among specialties in proportion of feeling types, and 4th in proportion of judging types. This specialty attracts significantly more of the humanistic -NF- types (1.44*) and of the --FJ types (1.40*) who are most likely of all types to enjoy planning and organizing events to carry forward programs to help others. These are types who would be most likely to see Public Health in terms of facilitating communications, and of providing services needed for the betterment of patients.

Quenk (1976) conducted a study in which past participants of AMSA experiential learning programs during medical school were asked to evaluate their experiences in light of later career decisions. One analysis created a prediction equation to determine variables predicting to choice of Public Health or Preventive Medicine. MBTI variables in the equation (which accounted for only 37% of the variance) were intuition (beta weight .16), extraversion (.07), feeling (.06) and perception (.01). The direction of preferences for E, N and F is in accord with that of the Myers data.

From these early data, therefore, it appears that Public Health is attracting physicians who see themselves as change agents in improving health care, not physicians who wish to manage existing systems.

30. Other Specialties: Radiology

ST	SF	NF	NT	
–	–	–	–	IJ
+			+	IP
+	+		+	EP
–	–			EJ

The Myers sample had 201 Radiologists in 1963 and 232 in 1973; in addition, 1973 had 35 Diagnostic Roentgenologists and 38 Therapeutic Radiologists. The two subspecialties were reported separately, since each had more than 30 physicians. In the rankings of all specialties, Diagnostic Roentgenology was 2nd and Therapeutic Radiology 5th among the extraverts; among feeling types, Diagnostic Roentgenology ranked 3rd, and among perceptive types, Therapeutic Radiology ranked 3rd.

In comparison to other specialties, Radiology had significantly more of the analytical and perceptive --TP types (1.33**) and fewer of the practical and dependable -S-J's (.72**). ISTP was particularly attracted to Radiology (1.53*) and sociable ESFJ avoided it (.45*). The comparatively rare ESFJ's in Radiology were attracted to Therapeutic (2.51*) and Diagnostic (2.18) subspecialties.

The total sample of all Radiologists was 305, of whom 223 or 73% were board certified; the only significant difference in the board certified distribution was that it contained fewer than the expected number of ENFP (.77*) and more than the expected number of ESTJ (1.30*).

Fifty-eight Radiologists had professorial appointments; the type distribution did not differ significantly from the Radiology sample. Nor were there differences in the 193 members of the American College of Radiology and the 128 members of the Radiological Society of North America.

The Work Setting studies included 25 Radiologists who were 60% I, 52% N, 64% T and 80% J. There were no statistically significant differences in this small group from the total sample, and no analysis of satisfaction was made. Radiologists tended to fall in the Technical Specialist Niche.

At this stage, it appears that Radiology attracts thinking types, as might be expected in a field with high demands for technical and mathematical skills. It is possible that Diagnostic and Therapeutic aspects of Radiology may be attracting more of the types who enjoy patient care and frequent patient contacts. Larger samples will be needed to establish these relationships.

31. Specialty Choices Inferred from Other Specialty Societies

It may be possible to infer type preferences for medical specialties from memberships in professional societies. Below are listed significant type differences for societies not discussed in earlier reviews of specialties. Comparisons are between membership in the society and the distribution of the 4953 physicians of the 1973 Myers follow-up.

a. American College of Physicians (354 members)

Members are 52% I, 59% N, 55% T and 52% P.
Significantly more N (1.11*), especially -N-J (1.29**) and IN (1.25**).
Significantly fewer -S-J (.81*), particularly ESTJ (.61*).
Has significant numbers of the IN-J types who will move mountains to achieve their vision, so may be more action-oriented than the number of academic types would suggest.

b. American College of Chest Physicians (65 members)

Members are 55% E, 58% N, 64% T and 63% J.
Significantly more J (1.36**), -NT- (1.57**), -N-J (1.68**).
Significantly fewer I--P (.49*), -NF- (.52*), --FP (.54*).
One-fourth of members are either ENTJ (2.03*) or INTJ (2,37**).
Similar in type distribution to specialists in Pulmonary Diseases and Cardiovascular Diseases.

c. American Diabetes Association (57 members)

Members are 61% I, 56% N, 61% T and 56% P.
Significantly more --TP types (1.45*) including INTP (1.78*)
Type distribution similar to Radiology, but more introverted.

d. American Geriatric Society, Inc. (94 members)

Members are 67% E, 53% N, 51% T and 50% J.
Significantly more E (1.31**), especially E--J (1.34*).
Significantly fewer I--P (.61*) and IS-- (.59*).
A decisive, action-oriented group.

e. American Society of Hematology (40 members)

Members are 60% E, 70% N, 52% T and 58% P.
Significantly more N (1.32*).
Significantly fewer IS-- (.35*).
An active, innovative group, dedicated to change.

f. Industrial Medical Association (46 members)

Members are 59% E, 54% S, 57% F and 63% P.
Significantly more ESTP (2.90**)
Significantly fewer --TJ (.41*)
A practical, sociable, patient-oriented group.

The foregoing review of research on type differences in medical specialties has established several facts.

First, specialties vary in the range of types they attract. Some specialties attract substantial numbers of all types, while others draw mainly from relatively few types.

Second, any specialty of any size contains all 16 types.

Third, there exists at present no solid data base enabling us to predict with any certainty the reasons for entering a specialty, the successes in a specialty, or the satisfaction, of any individual type.

Fourth, the data that do exist are, in the main, supportive of the theory on which the Myers-Briggs Type Indicator is based, and this theory has explanatory power in interpreting findings. Specialty choices of the types do "make sense" in light of the theory.

Fifth, the object typing methodology of the Work Setting study can bring together a wide range of data in conceptually useful ways.

Many of the specialty samples reported in this part of the report are very small, and we do not expect all the patterns noted to hold up in larger samples. The data are solid enough, however, to warrant a much closer look at type differences within medical specialties, and across specialties.

The next step should be to study large samples within specialties to determine how types differ in choosing the specialty, in how they practice, and in their satisfaction. Until such studies have been carried out, MBTI users can refer to these data as a baseline for predictions. Great caution should be used in their use as a counseling or manpower planning tool, especially for those specialties with small samples.

C. Practitioners in Other Health Professions

This section is concerned with what is known about specialty choice, work settings, satisfaction, and competence in other health professions. It is based on information discovered in assembling data on the 32,271 Type Indicators reported in this Monograph, plus type-related data located in the literature or supplied by MBTI users.

1. Nursing

In light of the number of practitioners in the field of nursing in the CAPT sample (over 2500), it is surprising how few solid facts on work settings and specialties were found. Data on occupations come mostly from information given on the MBTI answer sheets. Most nurses simply write "nurse" or "registered nurse", without noting their nursing specialties.

a. Retention in Nursing

In Part II of this Monograph, type distributions of students and practitioners were compared. If a given type is found more often among practitioners, it probably means that this type is more likely to continue to practice its profession. However, the same difference could arise if schools changed selection policies, and admitted fewer of the type today, compared to students (and graduates) of the past.

In absolute numbers, the three types most frequently found practicing in nursing were ISFJ (15%), ESFJ (12%) and ENFP (11%). Only one of these types had a high retention ratio (ISFJ for nurses 15.3%, for students 12.5, ratio 1.22***). Five other types with significant retention ratios are from the thinking types whose numbers are comparatively low in nursing (ISTJ 1.26***, INTJ 1.52**, ISTP 1.46***, INTP 1.36** and ENTJ 1.52*). Relatively more introverts (1.17***), intuitive types (1.04*) and thinking types (1.16***) are found among practitioners than among students. There are significantly fewer of the active and concerned E-F- types found among the practitioners (44% of students, 34% of practitioners, ratio .77***). Among Auburn freshmen (Grant, 1965) the E-F- types were the only students significantly more likely to be dating more than once a week. One possible reason for the lower retention in these types, especially in fields with many females, might be that they are more likely to leave their profession for responsibilities of marriage and family. This readily testable hypothesis has not yet been tested.

b. Levels of Training

Of the 2635 practitioners in the field of Nursing, 2351 were Registered Nurses, 113 Licensed Practical Nurses and 171 Nursing Assistants. All three have a majority of sensing types, feeling types and judging types. Type distributions are given in Appendix E. All three groups had substantial numbers of the sympathetic and friendly -SF- types, the types expected to have the greatest affinity for patient care. (However, there were more -SF- types among the Nursing Assistants (47%, ratio 1.25***) and Licensed Practical Nurses (52%, ratio 1.38**) than among the Registered Nurses (36%, ratio .96***). The 330 Registered Nurses coded as having baccalaureate degrees had 36% -SF- types, while nurses with graduate degrees had only 24% (.64***). There is some evidence, therefore, to support the hypothesis that more of the -SF- types will be found in fields with the greatest direct patient contact.

While nurses with graduate degrees still had a majority of feeling types (60%), there were relatively more thinking types in nurses with graduate degrees (1.25**).

c. Specialties

Among the practicing nurses, 204 were classified as administrators or consultants. Compared to other nurses, this group had more logical and ingenious -NT- types (19*, 1.55**) and relatively fewer -SF- types (24%, ratio .64***). In absolute numbers, the enthusiastic and insightful types were the majority grouping (34%, ratio 1.15). The academic IN-- group (1.38**) and the tough-minded --TJ group (1.29*) were relatively more frequent among administrators and consultants. ISFJ, the most frequent nursing type, had significantly fewer in this role than expected (.67*). The types attracted to administration and consultation are typical of the types attracted to these activities in other fields. It is surprising not to have more judging types, since these types are generally found in administration in sizable numbers. There are 61% J in this role, non-significant because J are attracted to all levels of nursing.

The sample had 294 Nurses classified as nursing educators. In the coding system, this classification was used for nursing faculty and for nurses concerned with patient education. Like the previous group, nursing educators had more intuitive types (59% 1.41***) and thinking types (40% 1.24**). All intuitive types were significantly attracted to the educational role except ENFP (non-significantly attracted, ratio 1.20) and INFP (significantly under-represented .61*). ISFJ (.67*), ESFJ (.60**) and ESTP (.00*) were significantly underrepresented among nursing educators. We expected that in nursing, as in other fields, relatively more intuitives and thinking types would be attracted to education, and this proved to be the case. With 41% of the Educators preferring sensing, however, Nursing has a substantial number of teachers who will want to focus on the practical details of nursing care, and balance the majority with their greater interest in theory and science.

The sample included 60 Nurses specializing in maternity and child care. There were significantly more of the organized executive -N-J types (1.53*). The same types were also over-represented in the 119 nurses specialized in medical-surgical nursing (1.46*). We had expected to find more thinking types in medical surgical nursing; while there were a substantial number (40%), the ratio of 1.25 was not statistically significant. We had expected to find more intuitives among psychiatric nurses; the 79 in our sample had 67% intuitives, ratio 1.60***. All ratios for the intuitive types are greater than 1.00, and all ratios for the sensing types are lower than 1.00. Psychiatric nursing, therefore, attracts the same types who also enter Psychiatry, Psychology and other health professions where understanding the subtleties of communication is important.

d. Work Settings

The coding system identified 528 nurses as working in hospitals. Compared to all practicing nurses, those working in hospitals were more likely to be sensing types (70%, ratio 1.20***), particularly the sympathetic and friendly -SF- types (48%, ratio 1.28***) and the dependable -S-J types (54%, ratio 1.25***). The two types with sensing dominant and feeling as auxiliary were significantly attracted to hospital work (ISFJ 1.45*** and ESFP 1.41*).

Clitsome (1975) compared a sample of 38 Intensive Care Unit nurses to a sample of 30 general staff nurses in a California hospital. The ICU nurses had significantly more intuitive types than the staff nurses (55% compared to 30%) and more perceptive types as well (61% compared to 30%). Surgical ICU nurses had more introverts than medical ICU nurses. On a measure of job satisfaction, judging types in both groups rated themselves more satisfied than did perceptive types; in the staff nurses, sensing and thinking preferences were also associated with high reported job satisfaction.

Beck (1976) studied a group of 97 registered nurses working in a 600-bed Florida hospital. The 97 were drawn from a potential sample of 150 nurses in the hospital; the others declined to participate or failed to return the research instruments by the deadline. Inservice education credit was offered for participation. In addition to the MBTI, participants answered the Management Style Diagnosis Test (MSDT) based on the 3-D management style theory of W. J. Reddin (1970, 1972). The MSDT groups respondents into 8 categories, based on patterns of three reported management behaviors—task orientation, relationship orientation, and effectiveness. The main focus of the study was a comparison of leadership styles of the 31 supervising nurses and the 66 staff nurses. There were no significant type differences between the supervisory and staff nurses. If management styles are related to type, as seems reasonable, a comparison of two small groups of similar type distribution would not reveal management style differences. No analysis was presented of type differences in management style for the entire group. Beck noted that supervisors who were executive types were more likely to prefer sensing on the MBTI, while staff nurses who were executive types were more likely to prefer intuition.

In the CAPT composite samples, there were 95 nurses working in schools or public health; they had relatively more intuitive types (53%, ratio 1.26*).

Data on type differences in specialty choice and job satisfaction are clearly preliminary and tentative. There may be a tendency for nurses who prefer to exercise their skills through constant patient contact and delivery of physical care to choose hospital settings, and for those interested in communications skills or in changing situations to select school nursing, public health, intensive care, psychiatric nursing, or nursing education. There are no carefully drawn, random samples of substantial numbers of nurses in the same specialties, and until these are collected, ideas about type differences in nursing specialties remain speculative. CAPT understands that a number of educational programs training nurse-practitioners are using the MBTI, but we were unable to assemble a sample of nurse-practitioners for this report. Given the large numbers of nurses in the health delivery system, and the need for counseling nurses into areas where they will be most productive and satisfied, sophisticated studies of nurses could make an important contribution.

As with other health professions, it will be useful to know whether nurses in a specialty actively chose it, or are in it because the position was available when they entered the community. Experienced nurses are more likely to have tried a variety of specialties and work settings than experienced physicians. Their judgments of satisfaction, therefore, may yield more information of practical use and theoretical value than similar studies of physicians. Given the increasing variety of nursing roles, it would be very useful to have solid data on type differences in preferences for, or dislike of, a wide variety of specific nursing activities. We expect also that in the current re-negotiation of roles between medicine and nursing, between levels within nursing, and between nursing and physician extenders, a knowledge of type differences will add much to understanding the variations in tensions and cooperative efforts.

2. Clinical Laboratory Services

One of the largest samples of practitioners in the health professions is that for Medical Technology. Appendix I shows composite samples of 705 students and 973 practitioners of Medical Technology. In addition, tables are given for 167 Laboratory Technologists and 31 Clinical Laboratory Assistants.

Three doctoral dissertations (Bowling, 1973, Hill, 1974 and Williams, 1976) have reported on MBTI differences in Medical Technologists. This section will summarize those findings, plus the reports of Williams (1975) and French & Rezler (1976).

a. Retention in Medical Technology

Part II of this monograph compared the type distributions of the 705 students and 973 practitioners in medical technology. The distributions were similar, but introverts (1.04*) and practical and matter-of-fact -ST- types (1.10**) were more frequent among practitioners, particularly the tough-minded and practical ISTJ's (1.21** and ESTJ's 1.45**).

Figure 16 gives a comparison of the 8 samples of Medical Technologists for each of the 16 MBTI types. There is considerable consistency across samples, with the four -S-J types most frequent and with the fewest Medical Technologists in the --TP types. As noted earlier, we had expected the -S-J types to be attracted to any field where precision, careful attention to detail, and systematic work habits were important.

b. Bowling's Study of Medical Technologists' Attitudes

In 1973, Bowling compared a sample of 56 Medical Technologists with a sample of 54 Pathologists, in an attempt to understand communication problems in the two groups and to suggest ways of creating more harmonious working relationships. The Pathologists have been described in Section B. To obtain her sample, Bowling randomly selected 20 hospitals from a list of all Florida public and private hospitals; 19 of these agreed to participate in her study. She drew a sample of 156 medical technologists from the 19 hospitals, and randomly selected 56 to complete a questionnaire about their specialties, memberships in professional organizations, attitudes about the ideal Medical Technologist, and attitudes about specific work activities. The sample was to small to conclude that there were significant MBTI differences in specialties; it was interesting that 14 of the 16 members of the American Society of Clinical Pathologists were tough-minded --TJ's.

Regardless of type groupings, Medical Technologists rated the ideal Medical Technologist as organized and logical and gave lower ratings to "quiet," "sympathetic," and "sociable." In responding to 17 statements about activities, on a scale where 1.0 = Strongly like and 6.0 = Strongly Dislike, Medical Technologists rated most activities in the very positive zone. Only 9 of 136 comparisons were rated "slightly like" or "slightly dislike" and none had median ratings in the zones for "dislike" or "strongly dislike." No statistical comparisons were given for the ratings. However, introverts were slightly less enthusiastic than extraverts about interacting with patients or supervising laboratory personnel, and were somewhat more likely to enjoy working alone by themselves. Sensing types were a little more likely to give high ratings to performing laboratory procedures and operating laboratory equipment. Intuitives liked coping with unexpected crises, learning the theory of tests, and initiating new procedures. Contrary to theory, intuitives did not give higher ratings to solving complex procedural or personnel problems. Thinking types were more likely to say they liked performing mathematical calculations, solving complicated problems, and operating laboratory equipment. Feeling types put a somewhat higher value on deducing patients' conditions from laboratory reports, and knowing that their work would help in treatment. Judging types were more apt to give higher ratings to planning and accomplishing each day's activities. Though results relative to MBTI preferences are, in the main, consistent with type theory, they are very speculative until they can be replicated in a more rigorous way with larger samples.

c. Hill's Study of Black and White Clinical Laboratory Personnel

Hill (1974) compared clinical laboratory personnel at two university teaching hospitals, one predominantly black (Freedman Hospital, Howard University) and one predominantly white (Shands Hospital, University of Florida). In the predominantly black hospital he tested 33 Medical Technologists, 9 Medical Technicians and 18 Laboratory Technicians; the comparable numbers for the predominantly white hospital were 35, 16 and 16. The black Medical Technologists included significantly more sensing and thinking types. The same differences were found in the Laboratory Technician samples. For laboratory personnel with the same MBTI preferences, there were no significant differences in strength of preference between black and white personnel (i.e., though there were more sensing and more thinking types among blacks, there were no differences in strength of preference for sensing or thinking between blacks whose types included S or T, and whites whose types included S or T.)

While no generalizations can be made from these limited samples, Hill's data suggest that there are more similarities than differences in types of black and white clinical laboratory personnel.The same types are attracted to the field in both races.

d. French & Rezler's Study of Work Setting and Job Satisfaction

French & Rezler (1976) reported on a sample of 154 female Medical Technologists attending the 1974 Annual Meeting of the American Society for Medical Technology. Every third registrant was invited to participate. The MBTI and the Job Description Index (JDI) of Smith, Kendall & Hulin (1969) were completed by 56 clinical practitioners, 48 educators and 50 administrators. All groups had a majority of introverts (61%, 59%, and 58% respectively), of thinking types (55%, 56% and 60%) and of judging types (71%, 67% and 72%). The significant type differences among the three groups were in sensing and intuition—as expected, educators had more intuitive types (56%), and practitioners more sensing types (77%), with administrators evenly divided (50%). One-third of the sample fell in two of the 16 types, ISTJ (19%) and ESTJ (15%). Almost half (47%) of the sample fell in the four organized and detail-minded -S-J types. (The -S-J's accounted for 46% of the female Medical Technologists in the CAPT composite sample.)

In relation to job satisfaction, all groups reported most satisfaction with the work they were doing and with their coworkers, and less satisfaction with pay and promotion. The most frequently mentioned frustration related to poor communication in the work setting. This finding is interesting, in light of the large numbers in the sample with the three MBTI preferences which can make communication difficult—introversion is often associated with lower interest in, and skills in, communication; thinking is more concerned with the analytic than with the human aspects of problems; and the judging attitude fosters more decisiveness and less time for listening and understanding. If this finding is repeated, it may suggest a need to look at health teams weighted toward I, T and J to see if extra effort and training are needed to ensure adequate communication.

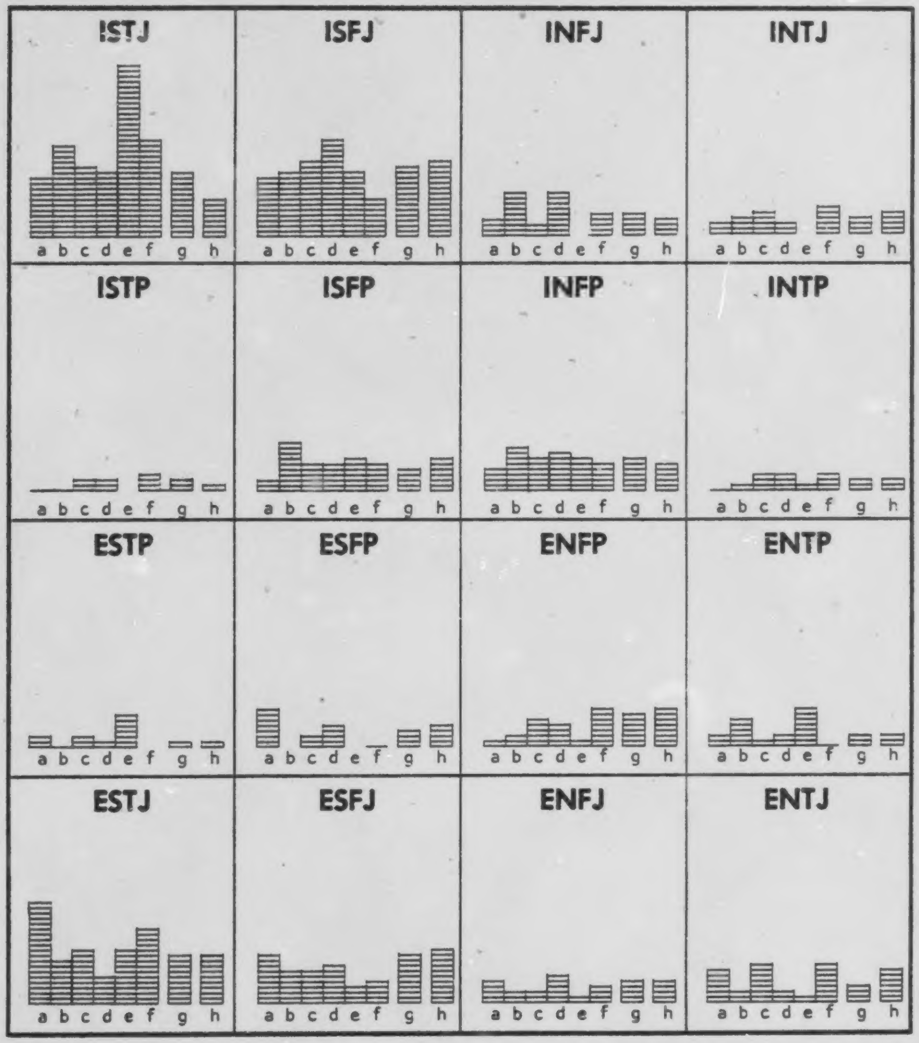

Figure 16
Percentages of Medical Technologists in MBTI Types for Eight Research Samples

Notes: Each horizontal line indicates 1% of that sample. Source of samples is:

- a Bowling, 1973. Total sample of 153 medical technologists from 19 randomly selected Florida private and public hospitals (page 194).
- b Hill, 1974. Total sample of 68 medical technologists from 2 medical teaching centers (33 from predominantly black center, p. 33; 35 from white, p. 72).
- c Williams, 1975. Pilot sample of 148 medical technologists, including 68 from 2 large hospitals and 80 attending Fall, 1972 Region III ASMT meeting (p 57).
- d Williams, 1976. Sample of 306 medical technologists in 7 university teaching hospitals randomly selected from Southeastern USA (p 62).
- e Combined sample of black medical technologists in university teaching hospitals including 33 from Hill, 1974 and 13 from Williams, 1976.
- f French & Rezler, 1976. Sample of 154 female medical technologists randomly selected from registrants of the 1974 Annual Meeting of ASMT (page 97).
- g Composite sample of 973 medical technologists. Table I-6 of this report.
- h Composite sample of 705 medical technology students. Table I-2 of this report.

Satisfaction scores for each of the three groups—practitioners, educators and administrators—were studied for differences within each group in MBTI preferences. Only two statistically significant differences were found. Introverted administrators had higher satisfaction-with-pay scores than extraverted administrators, and extraverted educators were more satisfied than introverted educators. No analyses compared type differences in satisfaction for the entire sample.

e. Williams' Studies of Job Satisfaction

Williams (1975) reported on two pilot samples of Medical Technologists, 68 employed in two Florida hospitals, and 80 who attended the Fall Region III meeting of the American Society for Medical Technologists in 1972, along with 9 students attending the same meeting. Williams had created a Medical Technology job satisfaction questionnaire, and pilot tested it in the Florida hospital sample. A revised version was given to the regional meeting sample. Williams reported the satisfaction scores for the 8 MBTI types with at least 3 technologists, but declined to interpret these preliminary data.

In a more extensive study, Williams (1976) collected data on 306 Medical Technologists (all female) in 7 large hospitals, randomly selected from hospitals in the Southeastern part of the United States, from those hospitals large enough to have departments of the major specialties within clinical laboratory services. The Medical Technologists in the study also answered the Job Description Index of Smith, Kendall and Hulin (1969). The JDI, used also by French & Rezler, generates factor scores for (a) general satisfaction, (b) pay and material rewards, (c) satisfaction with the work itself, (d) satisfaction with supervision and (e) satisfaction with coworkers. The only significant relationship between MBTI preferences and job satisfaction was that a stronger preference for feeling was associated with higher scores on satisfaction with coworkers. Within specialties, there were no significant relationships between strength of MBTI preference and job satisfaction. Williams commented that such relationships might be found if data were analyzed by types rather than by continuous preference scores. She also recommended that future studies of specialties take into account the extent to which Medical Technologists had actively chosen the specialties they were practicing. On the basis of other research, it seems likely that type differences are more likely to be found in reasons for liking specialties, and in satisfaction with specific activities, and less likely to appear in global measures such as those used here.

Williams reported on specialty choices in her sample of 306 Medical Technologists. Her total sample had 63% I, 62% S, 63% F and 66% J. There were no striking differences among specialties, but a few significant differences can be noted. Two figures are placed to the right of each specialty. The first shows the types with the greatest numbers, and the second shows the types with relatively more (+) or less (-) than expected, based on the total sample.

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(1) Blood Bank. The most frequent types among the 75 Medical Technologists in Blood Banks were ISFJ and ISTJ which together accounted for 36% of the sample. Relative to the total sample, however, the logical and ingenious -NT- types, 20% of the total group, were over-represented (1.61*).

ACTUAL

+	+		

RELATIVE

			+
			+
			+
			+

(2) Chemistry. The most frequent types in Chemistry were ISFJ, ISTJ and INFP; these three types accounted for 43% of the Medical Technologists in Chemistry. Relative to the total sample, the --FP types who made up 34% of the group, were over-represented (1.51**).

ACTUAL

+	+		
		+	

RELATIVE

	+	+	
	+	+	

(3) Hematology. Six types accounted for 71% of the 77 Medical Technologists in Hematology—ISFJ, ISTJ, ESTJ, ESFJ, INFJ and ENFJ. Relative to the total sample, Hematology had significantly more practical and matter-of-fact -ST- types (34%, 1.42*) and decisive extraverts (E--J 32%, 1.42*). Under-represented were the --FP's who were found in Chemistry (13%, .57*) and the independent -N-P's (10%, .55*).

ACTUAL

+	+	+	
+	+	+	

RELATIVE

+	+	+	
+	-	-	-
+	-	-	-
+	+	+	+

(4) Microbiology. ISFJ (27%) and ESFJ (10%) accounted for 37% of the 67 Medical Technologists in Microbiology. Relative to the total sample, Microbiology had more than the expected numbers of sympathetic and friendly -SF- types (49%, 1.49*).

ACTUAL

	+		
	+		

RELATIVE

	+		
	+		
	+		
	+		

Williams in her analyses, and CAPT in our analyses of the Williams' data, both conclude that we are far from able to use the MBTI to predict specialty choice, but that there is enough evidence to warrant more study.

Despite the substantial effort of the studies cited, evidence for type differences in satisfaction or specialty choice in Medical Technology is tenuous. There are enough trends in the predicted directions, however, to justify looking further. Two major problems need to be solved. The first is that there is still no carefully designed and standardized instrument for assessing satisfaction with activities and settings in Medical Technology. The second is that larger samples and more representative samples are needed, particularly if consistencies are to be identified in the types infrequently attracted to Medical Technology. These problems are not unique to Medical Technology, but apply to studies of career choices in all the fields of health.

3. Dietitians

Fellers (1975) studied relationships between career satisfaction and MBTI preferences among 243 employed dietitians, a 61% sample of 400 dietitians randomly selected from the 18,000 Dietitians listed in 1973 by the American Dietetic Association as employed. Eighty-five per cent responded to Fellers' original questionnaire, but only 61% completed the research instruments and met the other research criteria. In addition to the MBTI, participants responded to a brief biographical questionnaire which also requested information about their specialty and satisfaction with the specialty.

The Fellers sample accounts for 79% of the practitioners in dietetics and Nutrition reported in this monograph. Fellers compared her population with the best composite samples available at the time, 1591 female freshmen from the University of Florida, 1042 students in Introduction to the Health Related Professions at the University of Florida, 414 nurses, 158 occupational therapists, 130 physical therapists, and 431 medical technologists (the health samples included students and practitioners). The Dietitians were not significantly different from the Medical Technologists, and they had significantly more -ST-, --TJ, and -S-J types than other fields. This health field attracted the types who preferred a detailed, analytical, organized style of working. While feeling types were in the majority (54%), compared to other health fields Dietitians had significantly more than the expected numbers of thinking types, possibly because of the requirements for analytic and scientific skills. Psychologically-oriented -NF- types were under-represented.

a. Clinical Dietitians

Eighty-nine of the sample described themselves as Clinical Dietitians and 49% of these were in the -S-J types; this is approximately the proportion expected from the sample as a whole. Clinical Dietitians had significantly more of the thoughtful and organized I--J types (1.24*). Table 7 in Appendix J compares the Fellers Clinical Dietitians with the total practitioner sample. Most of the Clinical Dietitians (72 or 81%) described themselves as satisfied. The patient-oriented -SF- types (1.16*) and the --FJ types (1.14*) were more likely to call themselves satisfied, and the independent -N-P types, less likely to do so (.72*).

b. Administrative Dietitians

The 120 Administrative Dietitians had the expected number of -S-J types (49%) and tough-minded --TJ types (38%). Compared to the total sample, significantly more of the analytical thinking types were in Administration (53%, ratio 1.16*), particularly the practical and matter-of-fact -ST- types (38%, ratio 1.23*). Two-thirds of the administrators were judging types (66%, ratio .95), non-significantly fewer than expected. Analtyical and perceptive --TP types were relatively more attracted to Administration (1.42*). Eighty-eight per cent of Administrative Dietitians described themselves as satisfied and there were no significant MBTI differences between the 106 satisfied and 14 dissatisfied Administrators.

c. Educational Dietitions

A small group of 34 described themselves as Educational Dietitions. The -S-J types were 41% of the group, non-significantly fewer than expected (ratio .86). Significantly more active innovators were in education (EN-- types 1.72*). When the 28 satisfied and 6 dissatisfied educators were compared, the I--J group was relatively more dissatisfied (4 dissatisfied I--J educators, ratio 3.24**).

d. Satisfaction in the Total Sample

There were no significant type differences when dietitians were asked if they were satisfied with their career in general, but there were differences when they were asked if they were satisfied with their specialty at present. This measure of satisfaction was used in looking at type differences in satisfaction for the total sample. When the total sample of 150 satisfied and 37 dissatisfied Dietitians was compared, the -SF- group had the highest level of satisfaction (93%) followed by the -NT-'s (89%), the -ST-'s (80%) and the -NF's (76%). Fellers also analyzed her data to determine if strength of preference was associated with satisfaction. Strength of preference was not associated with satisfaction for Clinical or Administrative Dietitians, but a stronger preference for extraversion and a weaker preference for judging were associated with satisfaction in the small group of Educators.

Fellers concluded that her study had provided new data on the personality characteristics of practicing dietitians, but did not at this point provide information for selection. She recommended further studies to compare types of dietitians who have left the field with those still in practice, and further studies with more sophisticated measures of satisfaction. She also recommended development of measures of effectiveness as well as satisfaction for the many different activities if Dietitians. Fellers recommended that longitudinal studies be instituted in colleges and followed through into practice, with the intent of understanding selection, retention, and reasons therefor. Finally, she raised the question whether the emphasis on science in recruitment and training of dietitians may not be discouraging some patient-oriented types needed by the profession.

4. Occupational Therapy

A comprehensive study of 118 Occupational Therapists was conducted by Brown-Kahler (1973). All registered Occupational Therapists in the state of Florida were invited to participate (N 247) and 118 completed the MBTI and a comprehensive questionnaire developed by Brown-Kahler. Of the 118, 75 were employed full-time as Occupational Therapists at the time of the study. The 118 Occupational Therapists of this research account for 75% of the composite of practitioners in Occupational Therapy in this monograph. The original study was a descriptive study of Occupational Therapists in Florida, with MBTI data a relatively minor part; MBTI findings were mainly based on continuous scores for the four preferences EI, SN, TF and JP. For this monograph, Brown-Kahler and her colleague, Earl Blekking, kindly made available a new series of data analyses by the 16 types. From these, CAPT prepared SRTT's of type distributions of major variables. A summary of the SRTT findings appears in Table 88. For each variable, the table shows the number in the subgroup and the per cent of E or I, S or N, T or F and J or P, whichever was in the majority.

Ratios in the table mainly are based on comparisons of the subgroups with the total group of 118 Florida Occupational Therapists. Ratios more than 1.00 appear in the column "more than expected" and ratios less than 1.00 appear in the column "less than expected." If no statistically significant ratios appeared on the table, then the highest or lowest ratios are given enclosed in [ ], to enable the reader to estimate the probable range if the study were replicated with larger samples.

For two variables, Values and Preferences for Occupational Therapy Media, two SRTT's were run for each item. For values, separate analyses were made of the therapists who fell in the top quarter of rankings of the value and of the therapists who fell in the lowest quarter of rankings. For media, one analysis included therapists ranking the medium as their first, second or third preferences; a second SRTT included therapists who ranked the same medium 6th or lower. If the analysis of the "low" group added information to the standard analyses of the "high" group, the ratios appear in the table in italics, with ratios more than 1.00 now appearing in the "less than expected" column and ratios less than 1.00 appearing in the "more than expected" column so that letter groupings with comparable meanings can be seen together. [For example, in therapists preferring Needlecraft & Textiles, there were more --FJ's and fewer I--P's. In the therapists with low preference for Needlecraft and Textiles, there were fewer F's and more --TP's.]

These data are reported in some detail, because the study covered a very large number of variables related to career choice and satisfaction. However, the total sample is small—8 types have 5 or fewer therapists. Very large differences are required for significant findings in small samples. Despite the limitations of the data, which Brown-Kahler has stressed in her own report, these analyses can be useful to future researchers in many health professions as a basis for generating hypotheses. Findings should be considered highly tentative until replicated with larger and more representative samples.

Type distributions for the CAPT student and practitioner samples, and for the Brown-Kahler sample appear in Appendix K. The Brown-Kahler sample has more of the practical sensing types and organized judging types than are found in the CAPT sample, particularly CAPT students. The CAPT samples have a strong bias toward Florida and may not be representative of the profession nationwide.

Table 88
Summary of Differences in MBTI Distributions for Florida Occupational Therapists Tested by Brown-Kahler (1973)

Questionnaire Item	N	Percentage in MBTI Preference				SRTT Comparisons of Item with Total Sample	
		EI	SN	TF	JP	More than Expected	Less than Expected
OCCUPATIONAL THERAPY POPULATIONS							
CAPT Composite OT Samples	841	59% E	60% N	73% F	50% P		
All Students	684	61% E	60% N	77% F	51% P		
All Practitioners	157	51% E	56% N	57% F	55% J		
Brown-Kahler Florida OT's	118	52% I	51% N	60% F	64% J		
BACKGROUND AND CAREER PLANNING							
Community Size under 10,000							
High School	38	53% E	55% N	66% F	58% J	--TP 1.86*, ENTP 2.48*	--TJ .39**
At time of study	15	60% I	53% S	67% F	53% J	INFP 3.37*	
Career Plans: High School							
Health Career	38	53% I	58% N	76% F	55% J	F 1.27*, E--P 1.76** -NF- 1.46*, --FP 1.61* INTJ 2.48* ENFP 2.22**	E--J .46*
Non-Health Career	72	53% I	50% N	51% T	67% J	T 1.29**, -ST- 1.33* --TJ 1.28*, ENTJ 1.49*	E--P .64*, -NF- .77* --FP .73*, ENFP .35**
Plans at College Graduation							
OT- General	83	52% E	52% S	61% F	60% J	[-S-P 1.29]	[-NT- & IN-- .82]
OT- Specialty & Advancement	15	67% I	60% S	67% F	73% J	IS-- 1.80*, ISFJ 2.62**	
Other	18	56% I	72% N	50% T	72% J	-NT- 2.02*, -N-J 2.03** IN-- 2.02*	
Career Goals: At Present							
OT- General	45	53% E	56% N	56% F	58% J	[E--P 1.37]	[--FJ .72]
OT- Specialty & Advancement	28	61% I	64% N	68% F	57% J	[IN-- 1.46]	[ES-- .37]
Other	43	51% E	63% S	60% F	74% J	S 1.28*, -S-J 1.40**	[--FP .61]
CAREER VALUES							
Motivations for Entering OT							
Helpful to people	49	51% E	59% N	67% F	63% J	-NF- 1.35*	-S-P .22*
Combine arts and med. science	28	64% I	50% S	57% F	57% J	-S-P 2.30*, ISFP 3.16* INTJ 3.37*	ESFJ 0.0*
Practical (opportunity)	20	60% I	55% S	55% T	65% J	[-ST- 1.40]	[-NF- .52]
Intrinsic & Extrinsic Values							
Responsibility (I)	38	58% I	50% S	53% T	61% J	T 1.32*, -ST- 1.77** --TJ 1.46*, ISTJ 2.48**	--FJ .56*, -SF- .59* ES-- 2.01**
Social Service (E)	25	52% I	60% S	60% F	68% J	[ES 1.44]	--TJ 1.51*, ISTJ 2.12* INTJ 2.42*
Self Realization (I)	41	54% I	56% N	69% F	58% J	[--FP 1.28]	[-ST- .55]
Opportunity for Growth (I)	28	50% E	54% S	75% F	68% J	F .69*, -NF- .36*	T 1.47*, -NT- 1.72*
Interpersonal Relationships (E)	21	57% E	62% N	71% F	57% J	[-NF- 1.49]	[IS-- .48]
Achievement (I)	27	59% I	59% S	52% F	78% J	I--J 1.46*	-N-P .28*
Way of Life (I)	38	64% I	53% S	75% F	64% J	F 1.25*, -SF- 1.42* ISFJ 1.82*, ENFP .00*	T 1.45*, -ST- 1.73* --TJ 1.70*, ISTJ 2.72**
Variety (E)	37	51% E	54% N	65% F	70% J	[-NF- 1.31]	--TP .21*
Recognition (I)	27	56% E	56% N	59% F	59% J	E .67*, EN .52*	I--J 1.40*, IS-- 1.43*
Working Conditions (E)	29	59% I	52% S	55% F	72% J	[-S-P 1.48]	E--P 1.81**, EN-- 1.53*
Prestige (I)	34	56% E	56% S	53% F	68% J	E .54**, E--J .39* -ST- .21*, ES-- .19*	I 1.43**, I--J 1.46* IN-- 2.02**
Economic Return (E)	27	67% E	52% S	52% T	74% J	E 1.38*, E--J 1.67*	--FP .32*
Job Freedom (E)	27	59% I	56% N	56% F	70% J	I .60*	E 1.43*, EN-- 1.60*
The Work Itself (E)	24	50% E	50% S	54% F	92% J	J 1.42**, -N-J 1.70*	I--P .00*, -N-P .32* --FP .18*
Security (I)	31	52% E	58% S	55% F	71% J	[--TJ & IS-- 1.31]	[IN-- .44]
Advancement (E)	27	59% E	56% N	70% F	67% J	[-SF- 1.30]	-ST- .21*

Table 88 continued

Questionnaire Item	N	Percentage in MBTI Preference				SRTT Comparisons of Item with Total Sample	
		EI	SN	TF	JP	More than Expected	Less than Expected
PERSONAL PREFERENCE[a] FOR MEDIA USED IN OCCUPATIONAL THERAPY							
Ceramics	66	53% I	53% N	56% F	62% J	EN 1.26* , _-N-P .00*_	_-S-P 3.06*_
Needlecraft & Textiles	63	51% E	52% N	68% F	68% J	--FJ 1.23*, _F .66*_	I--P .59*, _--TP 2.36*_
Woodworking	57	51% E	53% S	54% F	63% J	[--SP 1.51]	[-NF- .73]
Leatherwork	47	62% I	51% S	55% F	70% J	[-ST- 1.43]	[E--P .65]
Graphic Arts	28	57% E	57% N	54% F	68% J	-NT- 1.62*, INTJ 3.37*	[-ST- & IS-- .60]
Metalwork	17	58% E	53% N	53% T	53% J	[-S-F 1.89]	[IN-- .53]
LEISURE ACTIVITIES AND INTERESTS							
Reading	107	51% E	52% N	60% F	64% J	[E--J & EN-- 1.07]	[IS-- .91]
Arts and Crafts	85	54% E	51% S	65% F	63% J	E 1.12*, EN-- 1.18*	IN .69**, INFJ .46*
Outdoor Recreation	84	54% E	51% N	58% F	61% J	[--TP 1.22]	I--J .80*
Games and Sports	66	53% E	50% S	56% F	53% J	P 1.32**, -N-P 1.27*	I--J .72*, -N-J .68* --FJ .73*, INFJ .40*
Gardening	56	55% E	57% N	54% F	68% J	[E--J, -N-J & EN-- 1.24]	[-S-P .57]
Music	52	56% E	67% N	54% F	65% J	N 1.32**, E--J 1.33* -NF- 1.47**,-N-J 1.49** IN-- 1.40*, ESTJ 2.27** INFJ 1.76*	-SF- .37***, -S-J .72* IS-- .45***, ISFJ .13***
Theater	45	58% E	58% N	62% F	67% J	-NF- 1.47*, ESTJ 2.19*	-SF- .64*, --TP .35*
Religious Organizations	33	52% E	55% N	70% F	82% J	J 1.27*, -N-J 1.73** --FJ 1.46*	-N-P .46*
Social Organizations	31	52% E	55% S	65% F	74% J	ESTJ 2.54*	[E--P .50]
Service Organizations	28	61% I	57% S	64% F	82% J	J 1.28*, --FJ 1.44* ESFJ 1.95*	E--P .18*, EN-- .37*
CAREER SATISFACTION							
Overall Career Satisfaction							
Highest	67	52% E	58% N	58% F	63% J	[E--F 1.30]	[I--P .74]
High	26	62% I	58% S	65% F	62% J	[-S-P 2.06]	[E--P .59]
Moderate to Low	25	52% I	60% S	60% F	72% J	-S-J 1.51*	[-S-P .00]
Satisfaction-Present Position							
Highest	40	60% I	58% N	58% F	65% J	I--J 1.40*, IN-- 1.47* INTJ 2.95**	E--J .52*
High	25	56% I	64% S	60% F	64% J	[I--P 1.74]	[E--P .41]
Moderate to Low	21	57% E	62% N	52% T	62% J	ESTJ 3.75**	-SF- .30*
PRESENT EMPLOYMENT SITUATION							
Major Function Patient Service	54	56% I	52% N	56% F	63% J	[--TJ 1.30]	--FJ .74*
Major Area of Work							
Physical Dysfunction	41	54% E	56% N	51% T	61% J	[-ST- 1.37]	-SF- .62*, --FJ .65*
Psychosocial Dysfunction	22	55% I	59% N	55% F	50% J	[I--P 1.69]	[ES-- .47]
Present Position							
Employment as OT	75	55% I	53% N	52% F	63% J	T 1.21*, -ST- 1.35* --TJ 1.23*	-SF- .72**, --FJ .79*
Full Time Employment	65	54% I	52% N	51% T	62% J	T 1.27**, -ST- 1.47* --TJ 1.36**	-SF- .69*, --FJ .66**
Inactive because of:							
Pregnancy	41	51% I	51% S	71% F	71% J	[--FJ 1.31]	[I--P .45]
Family Responsibilities	39	51% I	51% N	67% F	72% J	[-N-J 1.25]	[--TP .61]
No Desirable Work	25	52% E	56% S	64% F	76% J	--FJ 1.50*, ENFJ 3.54*	[--FP .35]
Personal Preference	23	61% I	61% N	78% F	70% J	--FJ 1.52*	[-S-P .00]
Working in Job Not OT	21	52% E	52% N	67% F	71% J	[EN-- 1.32]	[I--P .30]

Notes: Career values classified by Brown-Kahler as intrinsic marked (I) and as extrinsic marked (E).
Ratios = % in group ÷ % in comparable group in total sample of 118 OT's, (or $\text{Frequency}_{obs} \div \text{Frequency}_{exp}$).
* $p<.05$, ** $p<.01$ and *** $p<.001$, based on Chi Square or Fisher's Exact Probability.
[ ] used to identify largest and smallest non-significant ratios on tables with no significant ratios.
Ratios in italics based on the group that ranked the values or OT media low rather than high.

The rankings of the 16 types among students and practitioners of the CAPT composite sample, and among Brown-Kahler's total sample of 118 and the 75 from that sample employed in Occupational Therapy at the time of her study, are shown in Table 89.

Table 89
Rankings of MBTI Types for Four Samples of Occupational Therapists

CAPT Students N 684		CAPT Practitioners N 157		Brown-Kahler Total Sample N 118		Brown-Kahler Employed N 75	
ENFP	25.2%	ENFP	14.6%	ISFJ	15.3%	ISFJ	10.7%
ESFJ	10.8%	ISTJ	8.9%	ENFP	11.9%	ENFP	10.7%
ISFJ	9.8%	ISFJ	8.9%	ESFJ	11.0%	ISTJ	10.7%
INFP	9.2%	ENTJ	8.3%	ENTJ	9.3%	ENTJ	9.3%
ENFJ	7.8%	INFP	7.0%	ISTJ	8.5%	INFJ	8.0%
INFJ	5.4%	ESFJ	7.0%	INFJ	7.6%	ESTJ	8.0%
ENTJ	5.4%	INTP	7.0%	INFP	5.9%	ESFJ	6.7%
ISFP	4.5%	ESTJ	6.4%	ESTJ	5.1%	INFP	6.7%
ESTJ	4.4%	ISFP	5.7%	INTJ	4.2%	INTJ	5.3%
ESFP	4.1%	INFJ	5.1%	INTP	4.2%	INTP	5.3%
INTP	3.7%	ENFJ	5.1%	ENTP	4.2%	ISTP	4.0%
ISTJ	3.4%	INTJ	5.1%	ISFP	3.4%	ISFP	4.0%
ENTP	2.0%	ENTP	3.8%	ENFJ	3.4%	ENFJ	4.0%
INTJ	1.8%	ESFP	3.2%	ISTP	2.5%	ENTP	4.0%
ISTP	1.6%	ESTP	2.6%	ESTP	1.7%	ESTP	1.3%
ESTP	1.0%	ISTP	1.3%	ESFP	1.7%	ESFP	1.3%
E	60.7%	E	51.0%	I	51.7%	I	54.7%
N	60.4%	N	56.1%	N	50.8%	N	53.3%
F	76.8%	F	56.7%	F	60.2%	F	52.0%
P	51.3%	J	54.8%	J	64.4%	J	62.7%

The practitioner sample has significantly more introverts (1.19*) and more thinking types (1.60***) than the student sample, a trend also noted in Nursing and Medical Technology.

a. Community Size

In the small samples of therapists living in communities with populations under 10,000 in high school (N 38) or at the time of the study (N 15), there was no significant trend for sensing types to be found in smaller towns, as expected based on data from Medicine.

b. Career Planning

The majority of Occupational Therapists had not planned on careers in health in high school; those planning health careers in high school were more likely to prefer feeling on the MBTI (1.27*).

c. Career Values

Career Values were measured in the Work Information section of the Brown-Kahler Career Development Questionnaire. Each value was ranked, based on the sum of rankings in 5 questions. Values were classified as Intrinsic or Extrinsic, and are identified on as (I) and (E) respectively on Table 88, where they appear in order of their rankings by the total sample.

(1) Values Associated with EI Preference. The values with the highest percentage of extraverts were Economic Return, Advancement, and Interpersonal Relationships. Values ranked highest by introverts were Way of Life, Achievement and Job Freedom. In theory, extraverts should be more aware of, and responsive to, environmental pressures, while introverts should be relatively more independent of such pressures. Extraverts were more likely to place a higher value on Recognition and Prestige, while introverts were more likely to value Achievement and Job Freedom. Extraverts also valued Economic Return more highly than introverts; however, it was the executive extraverts (E--J), not the practical ES-- group which accounted for the ranking.

(2) Values Associated with SN Preference. The values with the highest percentages of sensing types were Social Service, Achievement and Security. Values with the highest percentages of intuitive types were Interpersonal Relationships, Advancement and Job Freedom. Sensing types were expected to be more concerned with conservation of present advantages and intuitives with movement toward future possibilities. Practical -ST- and ES-- types were more likely to value Prestige than the academic IN-- group.

Some of the SN preferences were affected by the TF preference.
The -NF- types valued Opportunity for Growth, but not the -NT-'s.
The -SF- types valued Way of Life but not the -ST-'s.
The -ST- types valued Responsibility but not the -SF's.

Because Occupational Therapy attracts people who wish to help others through the arts, the -NF- group have a special affinity for this field. The crafts in theory may attract sensing types. There are fewer significant SN differences in this sample than we would have predicted, though in the main preferences are in the expected directions.

(3) Values Associated with TF Preference. The feeling function in Jung's theory is a valuing process; therefore we expected that the TF preference would be useful in understanding values of Occupational Therapists. Three-fifths of the Brown-Kahler Therapists are feeling types (compared to three-fourths of the CAPT student sample. Two values were preferred by more thinking types than feeling types—Responsibility and Economic Return. The

values with the highest percentages of feeling types were Way of Life, Opportunity for Growth, and Interpersonal Relationships. The tough-minded --TJ's were more likely to value Responsibility and less likely to value Social Service. Feeling types were more likely to value careers that provided a satisfying Way of Life and opportunities for Personal Growth; the gentle --FP types put relatively low value on Economic Return and the Work Itself in comparison to more subjective values.

(4) Values Associated with JP Preference. Two-thirds of the Occupational Therapists of the sample were judging types. It may be remembered that the organized and planful judging types are frequently found in most health fields, and more often in practitioners than in student groups. Judging types are expected to value responsibility, and to be relatively more willing to persist in tasks, simply because they are there to be done. Perceptive types are expected to value flexibility and understanding. No value in this sample of therapists attracted a majority of perceptive types. Values attractive to judging types were the Work Itself, Achievement and Economic Return. Values with a majority of Judging types, but relatively more attractive to perceptive types were Interpersonal Relationships, Self-Realization and Recognition. The Work Itself was highly to judging types, especially among introverts, and was less valued by perceptive types, especially the independent -N-P group. Achievement was valued by introverted judging types, and Economic Return by extraverted judging types. Prestige was relatively unimportant to the I--J types, and more important to the E--J types.

d. Personal Preferences for Media Used in Occupational Therapy

The Florida Occupational Therapists ranked seven media in terms of (a) their own preferences, (b) their use of the media with patients and (c) their preference for teaching. The first was analyzed for type differences. Ceramics was ranked high by 66 and low by 16, and was attractive to active innovators (EN 1.26*). Needlecraft and Textiles was ranked high by 63 and low by 20, and was attractive to the concerned --FJ's (1.23*). There were no significant type differences in Woordworking (high 57, low 21), Leatherwork (high 47, low 21) or Metalwork (high 17, low 58). Logical and ingenious -NT-'s gave Graphic Design high ratings (1.62), in a medium ranked high by only 20 and low by 54.

e. Leisure Time Activities and Interests

Occupational Therapists in the sample checked any activities that applied in a list of 10 interests and activities. Of the 118, almost all (107) checked Reading with no significant type differences. Arts and Crafts was next in popularity (85), checked more by extraverts especially extraverts with intuition, and not checked by introverts with intuition. Games and Sports were chosen by 66, more by perceptive types and less by the achievement-oriented I--J's. There were no significant type differences among the 56 who used leisure for Gardening. Music was chosen by 52 Therapists, especially -NF- types, but not by -SF-'s. The 45 who checked Theater also included more -NF-'s and fewer -SF-'s, with fewer --TP's as well. These differences are consistent with the types choosing the arts and humanities in college. Religious Organizations and Service Organizations were chosen by the concerned --FJ types; these types are frequently found in the ministry as well. There were no significant differences among types choosing Social Organizations, except that ESTJ's significantly more often made this choice. In the main, these female health professionals appear to be enjoying leisure activities expected to be attractive to their types. It will be interesting to learn if male samples show similar trends. In future studies, it would be useful to differentiate between active participants and spectators.

f. Satisfaction with Career and with Present Position

Florida Occupational Therapists described themselves as highly satisfied with their careers, a fact which made analysis of predictors to satisfaction a difficult task. Satisfaction was rated on a 5-point scale, with 1 = highly satisfied. As can be seen in Table 88, 67 or 57% classified themselves as falling at the highest satisfaction level. Only 25 reported ratings on the scale of 3 or 4, and none rated themselves at level 5. Brown-Kahler describes extensive analyses of all her variables with satisfaction ratings. The only MBTI variable related to satisfaction was EI continuous scores. In a multiple regression equation predicting satisfaction ratings, 25 variables accounted for 50% of the variance; EI entered at step 5, with satisfaction associated with a stronger preference for extraversion.

When data were analyzed by the 16 types and type groupings, however, the EI differences were less clear (Table 88). Few type differences were found. In ratings of overall career satisfaction, the conservative -S-J's gave less enthusiastic ratings. In ratings of satisfaction with present position, the organized introverts (I--J) rated themselves highly satisfied, particularly INFJ and INTJ. As with the other studies of career satisfaction described in this section, methodological problems and the skewed ratings of satisfaction make it difficult to understand type differences in satisfaction. There are enough clues to continue the search for relationships, but certainly not enough data to use the findings for practical purposes.

g. Present Employment and Work Setting

Of the 118 Occupational Therapists, only 75 or 64% were employed in their field at the time of the study. Though the weight of the sample was toward I, N, F and J, relatively more thinking types and fewer feeling types were working in Occupational Therapy. The same pattern was found among the 65 Occupational Therapists working full-time. Perceptive types were more likely to be among the 30 employed by government agencies (1.52**); judging types were more frequently working in voluntary/proprietary settings (73%, ratio 1.14), and I--J types in other settings (59%, 1.65*).

We had expected sensing types to be attracted to Physical Dysfunctions, and intuitive types to Psychosocial Dysfunctions, but the 41 and 22 therapists in these two areas did not fit these predictions. In fact, patient-oriented -SF- types were underrepresented in Physical Dysfunctions (.62*).

Several findings with the important --FJ group bear watching. These types are frequent in health professions, and because of their concern for others and their organizational abilities, they are valuable in many patient-care settings. In the Florida Occupational Therapists, the --FJ-s were underrepresented among therapists whose primary function was Patient Service. A number of them were inactive, some for personal preference (1.52*) and some because there was no position they considered desirable (1.50*). While we need good data on the reasons health professionals stay in or leave their professions, it may be particularly useful to study the --FJ's. In theory, they are most sensitive to the social environment around them, and it may be that more could be retained with changes in the emotional climate of work settings.

While most of the significant findings in Brown-Kahler's data are consistent with expectations from type theory, it must be remembered that many will prove to be chance findings when there are so many separate analyses. However, many non-significant trends may be confirmed in larger samples. Since Occupational Therapy is a field with few men (3 in this sample), it will be important to see how well findings hold up in professions with a better balance of males and females.

Brown-Kahler did a very careful and thorough job in studying a wide range of variables; we have not attempted to review the interesting data not related to MBTI types. It is regrettable that such a thorough study was not conducted with a sample large enough to create more clearcut and generalizable findings.

[illegible]. Psychological and Counseling Services

The data on practitioners in fields of counseling, compared to students, are givien in Part II of this report. Type distributions for practitioners in the different fields appear in Appendix N.

Most studies of counselors have been concerned with type differences in the counselor-client relationship, and these are more concerned with client than with counselor variables.

Perry (1974) studied 72 members of the American Psychological Association. The Clinical Psychologists had relatively more intuitives and feeling types; the experimental psychologists had relatively (but not absolutely) more sensing types, and more thinking types. Other psychologists (developmental, personality, social, educational) had more perceptive types. These data were used in the discussion of MBTI statistics in Part I of this report, page 48.

Hilliard (1972) studied 92 Rehabilitation Counselors in Florida state agencies. These were among 99 still employed out of an original group of 174 studied in 1971 by H. A. Meyer in the Florida State Department of Rehabilitation Services. Meyer used two criteria to identify high-performance counselors: (a) number of case closures and (b) scores on the Rehabilitation Counselor Rating Scale (Muthard & Miller, 1968). Hilliard administered the MBTI and the Holland Vocational Preference Inventory (Holland, 1970) to his sample, which included 53 high-performance and 39 low-performance counselors, based on the original ratings of the Meyer study. [Although Hilliard's sample was scored in the early years of the CAPT data bank, the cases were missed in our composite samples. The omission was discovered when it was too late to change the composite totals, but Hilliard's type distribution is given in Appendix N as table N-19 and the high-performance group is given in Table N-20.]

Using stepwise discriminant function, Hilliard found no difference on the MBTI preferences or the Holland vocational personality types, for both closure and the rating scale methods of dividing the groups. Only one variable, the Holland Infrequency scale, differentiated the high and low groups.

Hilliard concluded that, on the basis of his analyses, "the MBTI and VPI do not provide measures which discriminate high-rated RCRS from low-rated RCRS counselors, nor high case-closure rehabilitation counselors from low-case-closure rehabilitation counselors" (p 75). He recommended studies to see if certain types were more effective in the specialties of Rehabilitation Counseling, and also suggested that more specific criteria for the tasks of the field be developed.

When CAPT compared Hilliard's sample to that of other psychological and counseling practitioners, Hilliard's counselors had more sensing types (1.54***) and fewer feeling types (.82*) than other practitioners. Rehabilitation Counselors, and to some extend Social Workers, may differ from other counseling fields in the skills they require. In addition to the counseling skills of empathic understanding, these two fields need the skills for managing details of paperwork and red tape, since much of their help involves working with other agencies. This field, more than most, needs a good balance between sensing and intuition. Studies looking at type differences in performance of, and satisfaction with, the tasks of "helping through understanding" and of "helping through paperwork" will probably be useful.

One last comment on Hilliard's sample is in order. The sample had 6 females and 86 males. Females have been entering Rehabilitation Counseling in substantial numbers in recent years. Studies of present-day counselors should find a more even balance of the two sexes.

6. Speech Pathology

Two studies of Speech Pathologists have reported preliminary data on practitioners. Borkowski (1974) collected data at the University of Florida on 30 undergraduates in Speech Pathology and Audiology, 32 graduate students, and 31 practitioners. Natter and Rifkind (1975) collected data at the Florida State University on 82 undergraduates majoring in Speech Pathology and Audiology, 16 graduate students, 13 faculty, and 63 Speech Pathologists practicing in the public schools. The two samples of 93 and 174 respectively account for 79% of the 337 students and practitioners in Speech Pathology reported in this Monograph.

The main difference between the undergraduate and graduate students in Speech Pathology was that 51% of undergraduates preferred intuition, while 67% of graduate students did so. Among the Speech Patholgosts, the 40 with baccalaureate degrees and the 31 with graduate degrees were similar in the proportion of intuitives (62% and 61%) but differed in the number of introverts. Baccalaureate Speech Pathologists had 70% extraverts, while Speech Pathologists with graduate degrees had 61% introverts. While one would expect relatively more introverts and intuitives at higher levels of education, as found in these samples, the samples are small and these findings should be considered as very tentative.

Natter & Rifkind commented on the type distributions of the small number of faculty in their sample, compared with their own students. The faculty had more introverts than the students (69% compared to 34%), more intuitive types (62% compared to 50%), and more thinking types (54% compared to 17%). What is the effect of a system where students are primarily action-oriented types who are concerned with people, while faculties are introspective types concerned with technical and scientific aspects of health care? This question probably has relevance in many health fields, not just in Speech Pathology?

Borkowski collected information on preferences for specialties and work settings. Only thirteen of her sample preferred Audiology; all were intuitive types. Speech Pathology faculty have commented to us that Speech Pathology and Audiology attract quite different groups of students; their hunches are that relatively more sensing and thinking types will be attracted to Audiology. It would be useful to have larger samples across more schools, and larger samples of practitioners to test these observations. Clinical practice and teaching were chosen significantly more often by extraverts, and research and administration were chosen significantly more often by introverts. Samples were too small for analyses of work settings, but Borkowski noted that many practitioners seemed to be in non-preferred settings. For example, 2 preferred schools but 13 practiced in schools; 15 preferred hospitals but 5 practiced there. She pointed out that studies of satisfaction should obtain information about preferences for specialties and settings, as well as measures of satisfaction with the present setting.

D. Summary

Part III of this monograph reviewed type differences among students in health careers. Part IV considered type differences among practitioners. Part II addressed the issues of retention on health professions by comparing the types of students with the types of practitioners. With a sample of over 23,000 students and almost 9000 practitioners, it is clear that most of the knowledge about type differences in health comes from students, not practicing professionals.

Studies of type differences among those actually in practice are essential if we are to establish a solid basis for counseling practitioners of each type at choice points in their careers, for counseling the students who are their future colleagues, or for planning health delivery systems which capitalize on the gifts and compensate for the weaknesses of the human beings who are trying to keep people well, and to cure them when they become ill.

Only practitioners can show us how the theories and models of health care delivery work out in the day-to-day activities of the real world. What are the satisfactions and frustrations for each type? How does each type experience the demands and pressures of the profession? Are there characteristic ways of coping which work better for some types than for others? To what extent are settings that bring out the best in some types only stressful and incapacitating to other types? And how big a part does emotional maturity play in observed type differences? Can giants of emotional strength cope with all kinds of stresses and challenges, regardless of their types, so that type becomes relatively unimportant? Or are these the very ones who would be most outstanding if their professional tasks and settings maximized type preferences? Given that health professionals are not all giants, and yet are in fields which provide constant pressure for high levels of performance, then can these all-too-human mortals reduce stress and increase satisfaction and competence if they manage their careers to call mainly on the motivations and skills which come more readily to their types?

At this early stage of research with the MBTI which is, after all, a new instrument, we did not expect to find answers to these global questions. But we did assess what we found in light of them.

1. Retention in the Health Professions

Students are the pool from which professionals come. If the types of practitioners differ significantly from types of students, it may be an indication that some types are more satisfied, and thus stay in the field longer, while less-satisfied types move out of the profession. (We kept in mind the alternative explanation that schools may be admitting a "new breed" of students because the types staying in the field are not meeting its demands!)

In the main, type distributions of students and practitioners in the same field are similar, but two trends should be watched in future studies. The relative number of introverts was higher among practitioners in 12 of 15 comparisons. Second, though most fields have a majority of feeling types, there were fewer feeling types and more thinking types among practitioners in 11 of 15 comparisons. Given the fact that most fields also have a majority of judging types, in both student and practitioner samples, there could be important consequences if it is shown that those who stay in health professions over time (and perhaps acquire more authority) are more likely to prefer introversion, thinking and judging. Such a trend would foster an emphasis on the technical and programmatic, rather than on the human issues of health care. An increase in the numbers of I, T and J would suggest that the system might become resistant to change. In theory, introverts will be slower to change in light of environmental changes, waiting until they have a new conceptual framework, "a better idea." Thinking types are more attuned to the logical outcomes than to the human side of issues. And judging types are more likely to continue the system and plan already underway, than to open up the situation for consideration of new ways. If more representative data show that I, T and J types do stay in health, they it will be important to learn why we are losing E, F and P, the types most likely to want action to adapt to changing human needs.

2. Specialty Choice and Work Settings

There are both theoretical and practical reasons to be interested in type differences in choices of specialty and work setting.

The Myers Longitudinal Study was mainly motivated to see if Jung's theory could predict the specialty choices of medical students. Her data showed that, despite the many other influences on career decisions, students did move in directions predicted by the theory. The CAPT follow-up a decade later confirmed Myers' findings, and added that physicians who changed specialties were more likely to move toward specialties more compatible to their types.

To the extent that the data confirm the theory, then these data and their theoretical implications can be presented, along with other facts, to students and professionals facing career decisions.

From studies reviewed thus far, a special affinity for direct patient care seems to be associated with preferences for sensing, feeling, and, to some extent, extraversion. Introversion, intuition, and thinking are associated with administration, research, and teaching, and to practice in fields where complex decisions are required.

It is clear that in samples of any size, all 16 types will be found in each specialty and in each work setting, though not in equal numbers. Some specialties (such as Anesthesiology, Pathology or Psychiatry) seem to attract a narrower concentration of types than do other fields with more diverse activities (such as Pediatrics).

The data on type differences in work settings are ambiguous, with few significant differences and contradictory findings. It now seems clear that we cannot expect to find clearcut and simple relationships—i.e., extraverts do not prefer group practice and introverts solo practice. Some investigators stress the necessity of ascertaining whether the professionals are in the setting out of preference, or out of necessity. Quenk's research on identifying a taxonomy of work settings, which takes into account tasks, attitudes, and patient and community characteristics, demonstrated that prediction can be improved if a sample is divided into "niches" whose members have similar characteristics. This and other multivariate strategies seem most likely to be the strategies which can identify predictable relationships between MBTI types and work settings.

3. Work Satisfaction

The importance of understanding career and work setting satisfactions lies in the expectation that satisfied health professionals will probably give better care. Although job satisfaction has been a topic of extensive research for years, there are still many unresolved differences of opinion. Nord (1977) reviewed and questioned six bassic assumptions of job satisfaction and recommended a new look at the whole area. Although his critique is comprehensive, it still omits an assumption that is basic to our interest in psychological type—one man's satisfaction may well be another man's frustration.

Studies related to satisfaction were found for Medicine (Quenk, 1975), Medical Technology (French & Rezler, 1976; Williams, 1975, 1976), Dietitians (Fellers, 1975) and Occupational Therapists (Brown-Kahler (1973). No clearcut conclusions can be drawn from these studies, and the number of significant findings were few, though most were in the predicted directions. Extraverted Medical Technologists and Dietitians were more satisfied than introverts in educational roles. Administrators in Medical Technology reported greater satusfaction with pay if they were introverts. Feeling types in Medical Technology reported more satisfaction with coworkers than did thinking types. In reporting values which may relate to satisfaction, exyraverts were more likely to value interpersonal relationships, prestige and recognitions from others, while introverts valued job freedom and were relatively more likely to value working alone rather than in groups.

The main difficulties in the studies stemmed from the research methodology used. Some of the difficulties encountered were:

a. Very Few Practitioners Rate Themselves as Dissatisfied

Satisfaction ratings typically were greatly skewed in the direction of high ratings. Investigators found themselves differentiating between enthusiastically satisfied and high-to-moderately satisfied practitioners. It appears that large samples will be needed to identify enough highly dissatisfied practitioners for adequate comparisons with highly satisfied and moderately satisfied practitioners.

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b. Type Differences in Expression of Satisfaction

Type differences may complicate the differentiation between satisfied and dissatisfied practitioners because some types express themselves more exuberantly, and others more circumspectly. The feeling types in Medical Technology who rated themselves significantly higher than thinking types in "satisfaction with co-workers" may indeed have been reporting on better interpersonal relationships; they may, however, have been giving less critical ratings than their more critical thinking colleagues.

c. Difference between Career Satisfaction and Job Satisfaction

Differences were found in satisfaction depending on the question—satisfaction with career and satisfaction with the present position are not the same things. Quenk also found that in some work setting niches physicians saw their specialties and work settings as highly interrelated, while in other settings these seemed quite separate.

d. Differences in the Actual Situation

Job satisfaction ratings give the individual's perspective on the job. Reality factors are important in interpreting results. Were the I--J administrators who were more satisfied with their pay actually making more money? or did money really mean less to them? Quenk found physicians in several work setting niches more satisfied with seeing fewer patients. In some niches, physicians were carrying a high patient load, and wanted more time to spend with each patient. In one niche, physicians were seeing few patients, but even that few was too many.

e. Satisfaction Is Measured in Many Ways

Satisfaction measures can be drawn from standardized instruments designed to be used in many occupations, or from lists of activities specific to the occupation being studied. They range from global to detailed, from single-measure to multi-measure. It would be very helpful to have sophisticated instruments with core questions which all health professions hold in common, and supplementary questions derived from the actual satisfactions reported by professionals of each field. Some investigators made a beginning at adding questions of values and satisfaction from hypotheses generated from Jung's theory.

f. Satisfaction May be a Function of Freedom of Choice

Some professionals are in fields and settings which were found after a search for a situation that fulfilled their preferences. Others were working in the only job available when they came to the community. Quenk found that a major source of satisfaction across most settings was the perception that the physician controlled the professional situation. It is likely that professions populated mainly by women will have substantial numbers in non-preferred settings.

g. Satisfaction Related to General Contentment

Some people are generally content, and others are chronically unhappy. In the latter, job dissatisfaction may simply be one more reflection of unhappiness with life in general. Quenk noted that Otis in his research identified a group of unhappy students whom he called the "disillusioned idealists." In her research, Quenk found a group of physicians who found everything in their work setting unsatisfactory--she called their work setting the "situational constraint niche", and wondered whether they might as students have been similar to the "disillusioned idealists."

The extent to which dissatisfaction comes from being a generally unhappy person needs to be differentiated from dissatisfactions that come from being a mismatch of personality and work duties, or the dissatisfaction that comes from being in a genuinely untenable situation. These diagnoses would seem to call for quite different treatments.

We seem to be at the point where more carefully-designed studies with larger and more representative sample will be needed before we can determine the extent to which satisfaction in health professionals is associated with being the right type person in the right field and place.

4. Professional Performance

Issues related to type differences in performance, including "clinical competence," were discussed in Part III as part of the discussion of assessing student progress. The status of research on performance is in even more disarray than research on satisfaction. There is little agreement on what to measure, or how to measure. Clinical performance has been studied more than performance in non-clinical tasks of providing health care.

In the one study focussing directly on clinical performance of practitioners, Hilliard found no type differences between competent and less competent Rehabilitation Counselors, when competency was measured by number of case closures, or when competency was measured by supervisors' ratings on a rating scale. Classification into competency cateories occurred several years before the Hilliard testing, and a number of the original sample were no longer with the agencies.

In 1974 Dr. Ralph Ingersoll, now at Baylor University, obtained MBTI and clinical problem-solving data on a sample of over 600 surgeons. Analysis of data and reporting of findings have been held up at the request of the College of Surgeons.

Studies of interdisciplinary health teams at the faculty and student level have used the MBTI and a wide range of behavioral measures. The Institute for Health Team Development and the AMSA Foundation have both conducted such projects, and evaluation reports should provide very useful data on specific behaviors, manner of approaching problems, and interpersonal interactions. In a pilot effort early in the IHTD project McCaulley (1975) was able to predict behaviors of team members from knowledge of type alone.

In our opinion, the best way at present to look at the questions of professional performance is to assume that with reasonable ability and motivation, all types can, with good training, learn most tasks of health care. We expect that each person will find some tasks more interesting and easier to learn, and that these tasks will call on the skills and interest of the type. Type differences do not imply that persons cannot perform specific skills, but do imply that they may not perform them in the routines of daily work. We expect that there will be a tendency to overlook, or to give less effort to, the less preferred activities. This overlooking will affect performance primarily in professions and settings where the ignored activities are frequent and critical. Thus, a tendency to overlook minute details will affect the performance of Surgeons, Medical Technologists or Dentists more than the performance of Psychiatrists or Social Workers.

It should also be productive to study the ways different types of practitioners achieve the same ends. If a task must be done, all types will do it; research on type differences in accomplishing the task will not yield significant differences. A study of the plans, strategies and behaviors used in accomplishing the tasks may well reveal significant type differences.

When we began this project, we doubted that we would find much substantive research on practitioners in health, and we were heartened to find that a good beginning has been made. While it is too early to have solid facts that can be generalized across all health professions (with the possible exception of the attraction to academic research and teaching of the intuitive and thinking types), these early studies give a much clearer idea of where to look, and where not to look, for type differences.

Studies have fallen short for several reasons. One is that samples are not representative. This is true of the samples we report in this Monograph. Our data should be interpreted with great caution; samples are what we found, and none was collected with rigorous attention to being representative.

A second problem lies in sizes of samples. Most MBTI studies should have large samples, simply because there are 16 different types. Since these types are not equally distributed, samples need to be large enough to have a good representation of the least frequent types.

There are questions related to MBTI methodology that also need attention. Many studies simply look at the strength of thr four MBTI preferences, while others look only at the 16 types, or groupings thereof. Late in the preparation of this monograph, we decided that we should have reported data on strength of preference to supplement the SRTT's, but reanalyses of all our data could not be done at that point. We recommend that in future investigators look at all 16 types, and also at strength of preference.

In looking at scores, a check should be made for curvilinear relationships. Quenk noted that in her data instances occurred where extreme preferences were associated with lower satisfaction.

Key questions which need to be addressed within professions and across professions include:

Of those who graduate from training, which types are most likely to remain in practice?

What is the decision-making process by which each type chooses professions, specialties and work settings?

What are the characteristic satisfactions and frustrations of each type in their professional careers? Which of these are specific to a profession, and which are found in the same types across health fields?

Are there a core cluster of tasks and attitudes in health professions which can be validly and reliable measured? Are there type differences in such core behaviors?

Are there characteristic changes over time in the satisfactions, competencies, or work patterns of MBTI types?

How does emotional maturity interact with type?

Our hypothesis is that the best outcomes for health care delivery will occur when practitioners:

Have selected professions and fields of specialization that call on the interests and skills of their types.

Have learned the skills of their profession in settings that did not downgrade their aptitudes, that taught them in the ways they learned best, and that made sure they became reasonably competent in the necessary tasks of less interest to their types.

Have found a work setting that permits them to function in ways that are mainly satisfying and comfortable for their types (but with occasions when they have to stretch themselves by using non-preferred functions).

And, when they are reasonably mature individuals.

We are just at the beginning of testing this hypothesis, and have not yet even begun to learn what happens when one or more of the four conditions are not met. This monograph has provided some basic data, and a review of strategies, but the bulk of the effort lies ahead.

PART V

PSYCHOLOGICAL TYPES AND PROVISION OF HEALTH CARE IN UNDERSERVED AREAS

A major concern in the planning of delivery systems for health services is the fact that many communities to not have ready access to health care. There have been no studies in which large numbers of health professionals in underserved areas have taken the Myers-Briggs Type Indicator.

There are, however, some data on medical students and physicians which can shed some light on type differences in career decisions to practice in rural areas, or to work in settings which primarily serve the poor.

This part of the report brings together data on issues related to size of community, interest in providing direct patient services, and the role of idealism in career choices. The conclusion of Part V will be an educated guess, based on data and type theory, as to the reasons different types of physicians may choose to practice in underserved areas.

Several type groupings are of especial interest in this section. There is evidence that sensing types are attracted to primary care, and to smaller communities; however, the proportion of medical students who are sensing types has been decreasing. There is evidence that feeling types are attracted to direct patient care. The proportion of feeling types has been increasing. The result of these changes is an increase in physicians who prefer intuition and feeling, a combination assumed to be associated with an interest in innovation and change, and with increasing possibilities for people. We may be facing a situation where there are fewer physicians attracted to underserved areas because they enjoy the daily routines of caring for patients, but where there are more idealistic physicians attracted to working with the neglected of the society because of their dreams of helping create a better world.

In looking at the data on type differences in underserved areas, we of course started with the assumption that different types of physicians may choose underserved areas for quite different reasons, and that these differences can be elucidated through use of Jung's theory.

A. Type Differences in Location of Residence

A considerable body of literature supports the expectation that physicians who grow up in smaller communities are more likely to practice in smaller communities. This section summarizes data on type differences in the community in which physicians grew up, and type differences in the communities in which they practice.

1. Type Differences in Community of Origin

One question of the inventory completed by students entering the Ohio State University Medical School (see explanation of data supplied by Larry Sachs in Part III) was a question about the size of community in which the students had lived most of their lives. There was a slight but significant tendency for sensing types to have come from smaller communities. Numbers of students and the selection ratios appear in Table 90.

Table 90
MBTI Preferences and Childhood Residence by Community Size for Ohio State Medical School Entering Students

Community Size	N	EXTRAVERTS		SENSING		THINKING		JUDGING	
		%	Ratio	%	Ratio	%	Ratio	%	Ratio
Rural (0-500)	109	41	.91	46	1.12	43	.89	67	1.07
Village (500-3000)	69	41	.89	54	1.31*	52	1.08	78	1.26**
Small Town (3M-10M)	118	46	1.01	40	.97	48	1.00	61	.98
Town (10M to 30M)	185	45	1.00	43	1.05	50	1.03	59	.95
City (30M to 100M)	182	42	.93	47	1.14	47	.98	63	1.01
Urban (over 100M)	235	51	1.13	38	.92	51	1.05	63	1.01
Suburban	444	45	.99	32	.89*	48	.98	60	.96

Note: Ratio = % of preference ÷ % in total sample (or Frequency_{obs} ÷ Frequency_{exp}).
* $p < .05$ and ** $p < .01$ based on Chi Square or Fisher's Exact Test.

As part of their research to create a taxonomy of physician work settings, Quenk and Albert (1975) asked their sample of 468 practicing physicians the size of the community in which they spent the majority of their pre-college years. The research also recorded the size of the community in which the physicians were then practicing. Data analysis produced seven work setting "niches" which are described in Part IV of this monograph. Quenk and Albert do not report size of community for the 16 MBTI types, but they do report typical community sizes for each niche relative to the total sample. The data on the work setting niches appear in Tables 78 to 84 in Part IV. In Table 91 the niches are ranked in order of the proportion of sensing types. The table gives the relative size of the communities in which the physicians of the niche lived before college, and at the time studied.

Table 91
Size of Community for Physicians in Seven Work Setting Niches

Work Setting Niche	Sensing Types	Size of Community	
		Before College	Present Work Setting
Traditional Primary Care	63%	Smaller	Under 5000-Highest %
Service Institutional	58%	Average	Average
Physician-Statesman	58%	Larger	Over 50,000 - High %
Technical Specialist	52%	Larger	Over 50,000 - Highest %
Traditional Specialist	50%	Largest	Over 50,000 - High %
Medical Teacher	40%	Average	Over 50,000 - High %
Situational Constraint	38%	Smallest	Average

The Traditional Primary Care niche had the largest percentage of sensing types; the physicians in the niche came from smaller communities than other physicians in the sample, and were working in the smallest communities of any physicians in the sample. The Physician-Statesman niche, which also had a large number of sensing types, averaged larger in the communities they came from, and in the communities in which they were practicing.

A particularly interesting group is that of the unhappy physicians in the Situational Constraint niche. The towns they came from averaged smallest of any niche, and they did not typically move to large cities, even though most of them were intuitive types. Quenk noted that many of the physicians in this niche were in primary care specialties in small towns. One wonders if they grew up in small communities with dreams of the wide world, and then came back to smaller towns, unable to fulfill the dream, yet unable to fit back happily into the old life.

2. Type Differences in Size of Present Community

The preceding section described both the community of origin and the present community settings of the Quenk and Albert Work Setting sample.

Data on community size were also analyzed as part of the 1973 follow-up of the Myers Longitudinal Medical Study. Addresses were found for 4905 physicians from the original Myers sample of 5355 medical students tested in the early 1950's. The distribution of the sample was similar to the geographical distribution of United States physicians (Cantwell, 1976). There were significant differences in types found in different states and regions. The South Atlantic States had somewhat more sensing types (ratio 1.07*) and the Mid-Atlantic states, more intuitives (1.07*).

Table 92

Relative Attractiveness of Size of Community for Myers Longitudinal Medical Sample at Follow-up #2

COUNTY CLASSIFICATION	TOTAL SAMPLE			PREDOMINANTLY WHITE SCHOOLS						PREDOMINANTLY BLACK SCHOOLS		
				MALES			FEMALES					
	N	%	RATIO	N	%	RATIO	N	%	RATIO	N	%	RATIO
EXTRAVERTS												
Metropolitan												
Core	1894	51.58	1.01	1535	49.32	.99	89	58.43	1.19*	270	62.22	1.01
Fringe	654	53.21	1.05	570	54.04	1.08*	33	36.36	.74	51	54.90	.89
Medium	1153	50.56	.99	1049	50.33	1.01	40	37.50	.76	64	62.50	1.01
Small	395	47.09	.92	376	46.54	.93	10	60.00	1.22	9	55.56	.90
Non-Metropolitan												
Urbanized - Adjacent to SMSA's	204	54.90	1.08	192	54.17	1.08	6	66.67	1.35	6	66.67	1.08
Urbanized - Not Adjacent	163	52.15	1.03	152	50.00	1.00	3	33.33	.68	8	100.00	1.62*
Less Urbanized - Adjacent	119	44.54	.87	111	45.04	.90	2	50.00	1.02	6	33.33	.54
Less Urbanized - Not Adjacent	146	47.26	.93	140	47.86	.96	4	-	-	2	100.00	1.62
Totally Rural												
Adjacent to SMSA's	13	30.77	.60	10	30.00	.60	1	100.00	2.03	2	-	-
Not Adjacent	30	50.00	.98	29	48.28	.97	1	100.00	2.03	-	-	-
Comparison Samples	4905	50.91	1.00	4308	49.93	1.00	197	49.24	1.00	448	61.83	1.00
SENSING TYPES												
Metropolitan												
Core	1894	42.03	.89***	1535	41.24	.88***	89	24.72	.80	270	52.22	.91**
Fringe	654	44.34	.94	570	45.44	.97	33	21.21	.69	51	47.06	.82
Medium	1153	52.21	1.11***	1049	50.81	1.09**	40	47.50	1.53*	64	78.13	1.36***
Small	395	49.62	1.05	376	49.73	1.06	10	30.00	.97	9	66.67	1.16
Non-Metropolitan												
Urbanized - Adjacent to SMSA's	204	51.47	1.09	192	52.60	1.13	6	33.33	1.08	6	33.33	.58
Urbanized - Not Adjacent	163	53.99	1.15	152	53.95	1.15	3	33.33	1.08	8	37.50	.65
Less Urbanized - Adjacent	119	57.98	1.23*	111	56.76	1.21*	2	50.00	1.61	6	83.33	1.45
Less Urbanized - Not Adjacent	146	56.85	1.21*	140	56.43	1.21*	4	50.00	1.61	2	100.00	1.74
Totally Rural												
Adjacent to SMSA's	13	38.46	.82	10	40.00	.86	1	100.00	3.23	2	-	-
Not Adjacent	30	50.00	1.06	29	51.72	1.11	1	-	-	-	-	-
Comparison Samples	4905	47.05	1.00	4308	46.73	1.00	197	30.96	1.00	448	57.59	1.00
THINKING TYPES												
Metropolitan												
Core	1894	54.38	1.00	1535	52.57	.99	89	48.31	1.08	270	66.67	.95
Fringe	654	52.14	.96	570	50.35	.95	33	45.45	1.02	51	76.47	1.09
Medium	1153	56.29	1.04	1049	55.39	1.04	40	47.50	1.06	64	76.56	1.09
Small	395	53.42	.98	376	53.19	1.00	10	50.00	1.12	9	66.67	.95
Non-Metropolitan												
Urbanized - Adjacent to SMSA's	204	51.96	.96	192	52.08	.98	6	16.67	.37	6	83.33	1.19
Urbanized - Not Adjacent	163	52.76	.97	152	53.29	1.00	3	33.33	.75	8	50.00	.71
Less Urbanized - Adjacent	119	52.10	.96	111	49.55	.93	2	50.00	1.12	6	100.00	1.43
Less Urbanized - Not Adjacent	146	54.11	1.00	140	54.29	1.02	4	25.00	.56	2	100.00	1.43
Totally Rural												
Adjacent to SMSA's	13	84.62	1.56*	10	80.00	1.50	1	100.00	2.24	2	100.00	1.43
Not Adjacent	30	53.33	.98	29	55.17	1.04	1	-	-	-	-	-
Comparison Samples	4905	54.31	1.00	4308	53.23	1.00	197	44.67	1.00	448	70.09	1.00
JUDGING TYPES												
Metropolitan												
Core	1894	47.20	1.02	1535	42.48	.99	89	52.81	.90	270	72.22	.97
Fringe	654	46.18	1.00	570	41.93	.98	33	66.67	1.13	51	80.39	1.08
Medium	1153	46.23	1.00	1049	43.66	1.02	40	57.50	.98	64	81.25	1.09
Small	395	43.04	.93	376	42.02	.98	10	60.00	1.02	9	66.67	.90
Non-Metropolitan												
Urbanized - Adjacent to SMSA's	204	46.57	1.00	192	45.31	1.06	6	66.67	1.13	6	66.67	.90
Urbanized - Not Adjacent	163	43.56	.94	152	40.79	.95	3	66.67	1.13	8	87.50	1.18
Less Urbanized - Adjacent	119	44.54	.96	111	42.34	.99	2	100.00	1.70	6	66.67	.90
Less Urbanized - Not Adjacent	146	50.00	1.08	140	47.86	1.12	4	100.00	1.70	2	100.00	1.35
Totally Rural												
Adjacent to SMSA's	13	61.54	1.33	10	60.00	1.40	1	100.00	1.70	2	50.00	.67
Not Adjacent	30	36.67	.79	29	37.93	.88	1	-	-	-	-	-
Comparison Samples	4905	46.36	1.00	4308	42.87	1.00	197	58.88	1.00	448	74.33	1.00

Notes: I, N, F and P omitted; they can be inferred from their counterparts, E, S, T and J.

Ratio = % in county ÷ % with the same MBTI preference in comparison group, (or $\text{Frequency}_{obs} \div \text{Frequency}_{exp}$).

HRP Codes were established for 4771 physicians in Follow-up #2 (4164 males and 189 females from predominantly white schools and 418 males and females from 2 predominantly black schools). The comparison group for the total sample is 4905 physicians with known state of residence. The comparison groups for other analyses are 4953 physicians for whom specialties are known, with each group compared to its counterpart, i.e., 4308 males and 197 females from predominantly white schools, and 448 males and females from predominantly black schools.

Total sample is included for comparison. Ratios computed from small N's are very unstable.

For all tables in this report, * $p<.05$, ** $p<.01$ and *** $p<.001$.

There tended to be more introverts in New England and in the Mountain States. The complete data will be found in Monograph II (McCaulley, 1977). These are the first data, to our knowledge, with type differences in states and regions in a large sample. While it is interesting that some expected differences appear, the data should not be taken seriously until they have been replicated.

The communities of residence were classified from the most rural to core metropolitan, using the Human Resource Profile County Codes. Table 92 shows four analyses of type differences in urban-rural residence. For the first analysis, the total group in each residence classification was compared to the comparable preference group for all 4905 physicians in the sample. In the second, males from predominantly white schools were compared to all 4308 males from these schools. In the third, females from the predominantly white schools were compared to all 197 females from these schools. In the fourth analysis, students from the two predominantly black schools were compared with the sample of 448 physicians from these schools (408 males amd 40 females). The intent of the second, third and fourth analyses was to see if there were trends in the subgroups different from those of the total group.

The only prediction for these analyses was that sensing types would be found less frequently in core metropolitan areas, and more frequently in smaller towns. All the analyses were based on the SRTT tables used throughout this report, and described in Part I.

In the total sample, 47% were sensing types. There were significantly fewer (42%, ratio .89***) in the core metropolitan areas, and the proportion of sensing types increased at a rather steady rate as communities grew smaller (excepting the very few physicians in totally rural areas). There were significantly more than the expected numbers of sensing types in medium metropolitan areas, and in less urbanized areas. The pattern for males from predominantly white schools was similar, as would be expected since they accounted for 88% of the total sample.

It has been noted earlier that pioneering ventures tend to attract intuitive types; 69% of the white female physicians were intuitive types, leaving only 31% for testing the hypothesis. Only 17 women were in the 6 non-metropolitan categories. Forty-seven percent of the female physicians in medium metropolitan areas were sensing types, significantly more than expected (ratio 1.53**), though still fewer in numbers than the intuitive types.

In the two predominantly black schools, 58% of the physicians were sensing types. Eighty-eight percent of the physicians in this group lived in core metropolitan areas. Fifty-two percent of physicians in core metropolitan areas were sensing types, the majority, but still significantly fewer than expected (ratio .91**). Seventy-eight percent of those in medium metropolitan areas were sensing types, more than the expected numbers (ratio 1.36***).

There is some consistency in the trends for the Work Setting and the Myers samples. An alternate hypothesis of curvilinear relationships might also be tried, with intuitives more likely to seek very small or very large communities.

No other predictions were made, and no other important trends were identified, although it may be worth watching to see if introverts also may tend to gravitate to smaller communities.

a. Stability of Residence

To determine if the more conservative ES-- types were more likely to be practicing in the state from which they received their medical degrees, the sample of 2070 physicians still practicing in the state of graduation was compared to the sample of 4905 physicians with known addresses. The ES-- types were significantly more likely to be practicing in the state of graduation (ratio 1.06*). The only types significantly not likely to be living in the states where they graduated were INTJ (ratio .86*).

b. Medically-Underserved Areas

Using the description of medically-underserved areas found in the Federal Register of July 6, 1976, 128 physicians (2.6%) were designated as practicing in medically-underserved areas. When this distribution was compared to that of the 4905 physicians with known residence, only one ratio was statistically significant (ENFP 1.58*).

Two non-significant trends may bear watching in future research. First, selection ratios for the idealistic INFP (1.40) and ENFP (1.58*) were in the predicted direction. Second, -ST- types had the largest group ratio (1.22) and all four types within this group had selection ratios greater than 1.00 (ISTJ 1.02, ISTP 1.32, ESTP 1.34 and ESTJ 1.21).

The analyses of geographical areas and size of communities showed small but significant tendencies for intuitive types to be more attracted to metropolitan areas, and sensing types to smaller communities. These findings at this stage have more theoretical than practical interest, but they do suggest that it may be worthwhile to try to determine the specific characteristics of communities and regions of the country which appeal to different types of people.

It seems possible that two distinct groups may be attracted to underserved areas. One is the practical and matter-of-fact people who may serve there because there are obviously needs to be met, and also perhaps because life is less complicated and time can be found for leisure activities. The other group is the idealistic types, especially the -NF- group. The following section reviews briefly the evidence that these two groups may be attracted to underserved areas.

B. Practicality, Idealism and the Delivery of Health Services

In earlier sections of this report, it has been shown that all 16 types provide direct patient care in substantial numbers, but that sensing types, and to some extent feeling types, are relatively more likely to spend more time in direct patient services.

Otis (1974) described four subgroups of University of New Mexico students attracted to primary care:

> For example, four patterns of career preference had peak scores on a primary care dimension, but were distinguished from each other in terms of dispositions towards other specialties and practice settings. One primary care group consisted of extroverted, relaxed individuals who preferred to work in orderly and planned ways, were oriented towards professional activity in the community, desired empathetic relationships with patients, and preferred psychosocial treatment. Another primary care group was composed of tense and active individuals who were psychosocially oriented but preferred not to engage in psychological treatment of patients themselves. A third primary care group consisted of conventional, practically-minded students who were not psychosocially oriented in their physician ideology, but were adept in tasks requiring attention to detail. The final primary care group was composed of intelligent, sensitive individuals who would probably make good team workers. (p 10)

Otis seems to be describing the Extraverted Pragmatists (primarily ES-- types with low anxiety), the People-Oriented Practitioners (-NFP types with average anxiety), Figures in the Community (-SF- types with average anxiety) and People-Oriented Enthusiasts (-NF- types with low anxiety). These types were described in Part III of this monograph. Otis noted that highly anxious types tended to avoid patient care.

1. Sensing Types and Direct Patient Care

a. Percent of Time Devoted to Patient Care

Figures 13 and 14 in Part III showed cross-sectional data on New Mexico students reported by Graham and Otis (1973). At intervals throughout medical school and after graduation, students were asked what percentage of their time they anticipated spending in direct patient care during their years of practice. For both extraverts (Figure 13) and introverts (Figure 14), sensing types consistently estimated that they would spend more time in patient care than did intuitive types.

In the Myers Longitudinal Medical Study, 85% of physicians described their primary activity as Direct Patient Care. There were equal numbers of sensing and intuitive types. However, since intuitives were in the majority in the total sample, there were relatively more sensing types in direct patient care (ratio 1.04***).

b. Patient Care Activities of Sensing Types

In the Physician Work Setting Studies , Quenk (1975b) found that sensing types saw significantly more patients each week, performed more habitual and non-varying activities, and stayed longer in their locations. They also managed their own money and earned higher incomes while still allowing time for leisure and their families. The Quenk sample had significantly more sensing types than the CAPT composite sample; one reason for the difference is that the Work Setting study concentrated on specialties emphasizing direct care.

c. Students Participating in Direct Care Experiential Programs

The MBTI was given to 590 students and physicians surveyed in a retrospective study (Quenk 1976a), preceptorship programs of the AMSA Foundation (Medical Education in Community Orientation, Appalachian Health Programs, Indian Health Program, Migrant Health Program, Health Team Training Programs, and National Health Service Corps Primary Care Preceptorship Project). There were relatively more introverts, sensing types and judging types in the follow-up sample. (Quenk cautions, however, that it is possible that the sensing types may not have been overrepresented in the actual programs. They may simply have been more responsible in meeting the commitments of the follow-up study.)

In the retrospective study, a series of regression equations were computed to develop prediction for direct care activities. Feeling and sensing usually entered the equations as predictors before other MBTI preferences. In predicting entry to General Practice or Family Practice, feeling entered at step #1 and sensing at step #8. In predicting Rural Practice, feeling entered at step #5 and sensing not until step #21. In predicting preference for Practice in Small Cities, feeling entered at step #4 and sensing at step #12. However, in predicting practice in metropolitan areas, thinking entered at step #4 and intuition at step #20.

Sensing types in the programs were more likely than intuitives to describe the program experiences as beneficial.

2. Idealistic Types and Direct Patient Care

This section considers intuitive types, but especially the -NF- types because, in theory, they should be most concerned with improving the possibilities for people. The research question is: To what extent, and under what conditions, do -NF- types seek to serve in underserved areas?

a. Comparison of Idealistic -NFP and Tough-Minded -STJ

Graham and Otis (1973) reported on cross-sectional data on University of New Mexico medical students in response to a question about their preference for working "in a poverty area or a community of low economic status. Ratings used a 7-point scale, with 7 indicating high interest. Figure 17 shows the mean values for students at different stages of their careers, from just before entering medical school until 1 to 5 years after graduation.

The prediction was that -NFP types would show stronger preference for working with the poor because they are considered more idealistic and motivated to contribute to a purpose transcending themselves. Their opposite types, the -STJ's were expected to give lower ratings, because these types are considered more practical and monetary incentives are important to them.

Both types entered medical school expressing high intentions of working with the poor; by the end of the first year, both groups dropped sharply, and continued to drop (with exception of the clinical years for -STJ's). At all points, the -NFP's "showed less disillusionment" than -S-J's.

The analysis of variance showed a significant difference between the two groups (*F* 19.61, *p* .001) and over time (*F* 27.35, *p* .001) with no significant interactions.

It has been argued elsewhere in this Monograph that the drop in the proportion of sensing types among medical students may result in fewer physicians primarily interested in providing patient care. Otis correctly argues that not all sensing types who want direct care are also interested in working with the poor. If the drop in sensing types were corrected by increasing their numbers at the expense of the idealists, one might help with the primary care problem while exacerbating the maldistribution problem.

b. Altruism Scores of Medical Students

In 1973 the late John S. Camiscioni of Ohio State University Medical school prepared data for an invitational conference on the MBTI in Medicine, which was held at the University of Florida. One table from his data showed Altruism scores from the Omnibus Personality Inventory (Heist & Yonge, 1968), a personality instrument designed for use with college students. The authors describe the altruistic person measured by the scale as "an affiliative person, trusting and ethical in his relations with others. He has a strong concern for the feelings and welfare of others as opposed to viewing them from an impersonal, distant perspective." Based on this definition, altruism would be expected to relate to MBTI preferences for extraversion and feeling.

Table 93 shows the mean scores for MBTI types and type groupings on the Altruism scale, and the rankings of the types. ENFJ's were rated highest in clinical performance in Ohio State medical students,

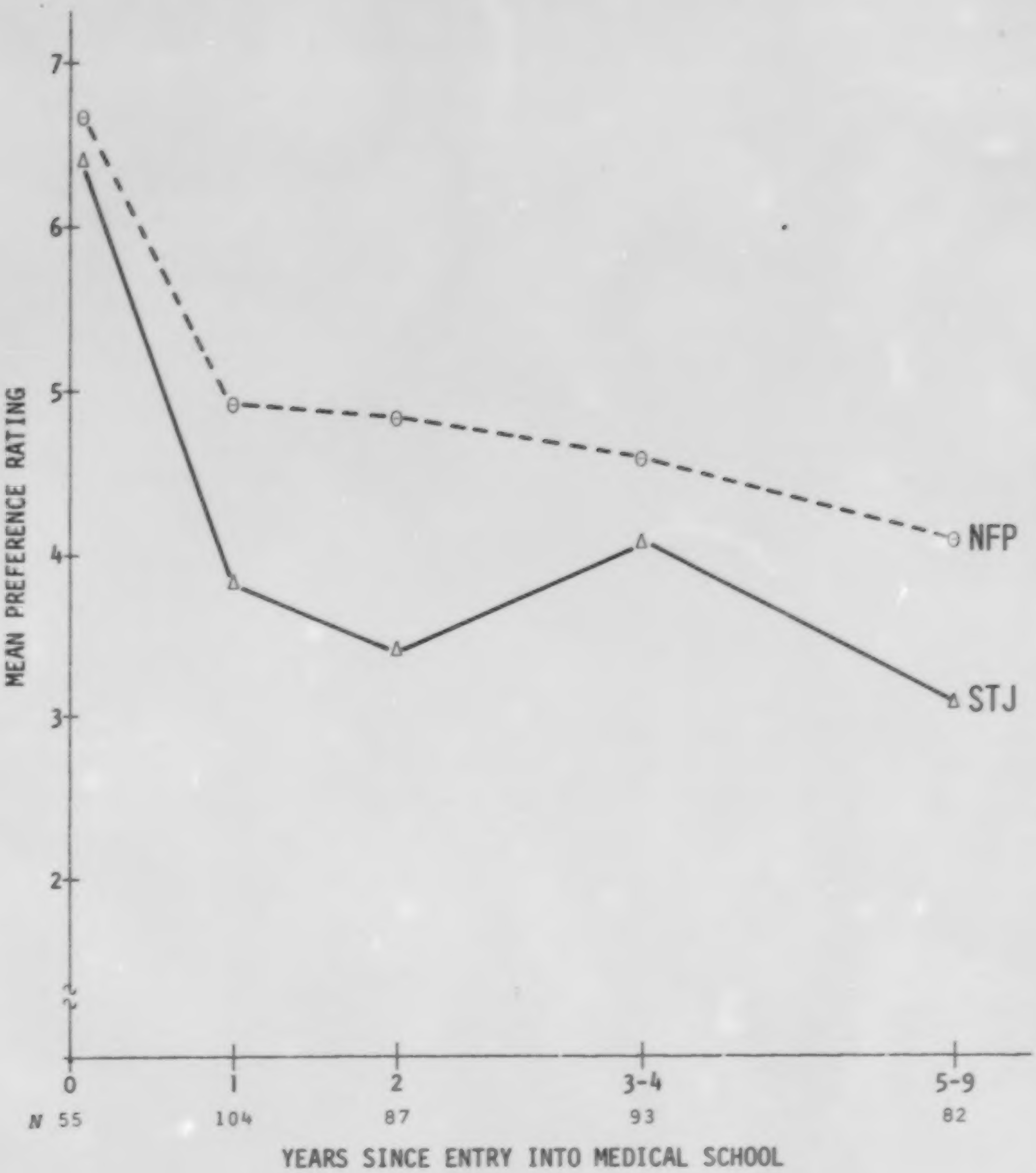

Figure 17
Mean Preference Ratings for WORKING IN A POVERTY AREA for -NFP types and -STJ types, as a Function of Years since Entering Medical School.

(From *Year IV: Second Quarterly Report*, HRA No. 1-MI-24195 by John R. Graham and Gerald D. Otis, 1973, p. 13.)

MEDICAL STUDENTS

OMNIBUS PERSONALITY INVENTORY: ALTRUISM

N = 675

	SENSING TYPES		INTUITIVE TYPES		
	with THINKING	with FEELING	with FEELING	with THINKING	
	ISTJ	*ISFJ*	*INFJ*	*INTJ*	JUDGING INTROVERTS
	N= 63 %= 9.33	N= 43 %= 6.37	N= 55 %= 8.15	N= 37 %= 5.48	
Mean	47.5	51.6	52.1	53.3	
S.D.	10.3	7.0	9.7	10.3	
Rank	15	11	10	8	
	ISTP	*ISFP*	*INFP*	*INTP*	PERCEPTIVE INTROVERTS
	N= 16 %= 2.37	N= 19 %= 2.81	N= 69 %= 10.22	N= 51 %= 7.56	
Mean	44.2	51.4	52.8	51.6	
S.D.	12.0	8.5	8.0	8.4	
Rank	16	13	9	12	
	ESTP	*ESFP*	*ENFP*	*ENTP*	PERCEPTIVE EXTRAVERTS
	N= 25 %= 3.70	N= 9 %= 1.33	N= 56 %= 8.30	N= 51 %= 7.56	
Mean	53.4	49.8	58.9	58.1	
S.D.	7.5	9.0	7.8	8.0	
Rank	7	14	2	3	
	ESTJ	*ESFJ*	*ENFJ*	*ENTJ*	JUDGING EXTRAVERTS
	N= 57 %= 8.44	N= 37 %= 5.48	N= 44 %= 6.52	N= 43 %= 6.37	
Mean	53.5	54.2	60.1	56.0	
S.D.	8.0	9.6	10.2	8.6	
Rank	6	5	1	4	

	NUMBER	MEAN
E	322	56.4
I	353	51.0
S	269	51.1
N	406	55.2
T	343	52.7
F	332	54.5
J	379	53.2
P	296	54.1
IJ	198	50.8
IP	155	51.4
EP	141	57.0
EJ	181	55.9
ST	161	50.2
SF	108	52.3
NF	224	55.6
NT	182	54.8
SJ	200	51.4
SP	69	50.3
NP	227	55.2
NJ	179	55.2
TJ	200	52.1
TP	143	53.4
FP	153	54.7
FJ	179	54.4
IN	212	52.4
EN	194	58.3
IS	141	48.9
ES	128	53.4

NOTES:

Data were prepared by John S. Camiscioni of Ohio State School of Medicine for a conferences on the Myers-Briggs Type Indicator in Medical Education held at the University of Florida, May 1973. Type table prepared by CAPT from data supplied.

rated themselves highest in Altruism. The four active and innovative EN-- types scored highest, and the IST- types lowest. Since many health fields have large numbers of devoted IS-- types, it seems likely that there are other varieties of concern for others not being tapped by this definition of altruism.

c. National Health Service Corps Preceptees and Preceptors

A group of 169 medical students and 56 National Health Service Corps physicians took the MBTI as part of the AMSA Foundation project to assess the effects of preceptorships in NHSC as an incentive to practice in underserved areas (Quenk 1976b). The students were 53% E, 72% N, 63% F and 50% P, while Preceptors were 59% I, 66% N, 55% F and 61% J. The four combinations of perception and judgment showed the -NF- types with considerably more students and preceptors:

	ST	SF	NF	NT
Students	10%	17%	45%	29%
NHSC Preceptors	18%	16%	39%	27%

The students had significantly fewer -ST- types (.53**) and more -NF- types (1.24*) than expected compared to the composite sample of today's medical students.

d. MBTI Preferences in Equations Predicting Medical Service

In the Retrospective Studies mentioned earlier (Quenk 1976a), prediction equations were also computed to predict preferences for practice in the Public Health Service, National Health Service Corps, and other government-sponsored programs. The MBTI preferences for N and F entered into the equations among the first variables. Beta weights and the step at which the variables entered are shown for the four comparisons.

Public Health Service

N	.17	Step 1
P	.11	5
F	.07	10
E	.07	13

Total variance: .41040

National Health Service Corps

N	.13	Step 3
F	.12	5
P	.09	9
E	.01	24

Total variance: .40806

Government-Sponsored Health Program

N	.11	Step 5
F	.10	7
P	.10	8
E	.07	14

Total variance: .40920

Government Institution Work Setting

N	.14	Step 4
E	.13	6
F	.04	14
P	.01	22

Total variance: .40931

C. Summary

While the evidence for type differences in practice in underserved areas is still sketchy, it appears that sensing types are relatively more likely to choose smaller communities, that feeling types are relatively more likely to be concerned with helping the poor, and that among the intuitive types, the intuitives with feeling are more likely to wish to provide medical services for idealistic reasons. Specifics within these broad outlines still remain to be discovered.

Several years ago, a nationwide random sample of physicians in nonmetropolitan communities reported on the liabilities and advantages of rural practice (Bible, 1970). No comparable study exists in which type differences can be understood. It is possible, however, to predict how types might differ in perceptions of liabilities and advantages. A first step at these predictions is shown below, with many based on Quenk's work setting study (Quenk, 1975b).

1. Predictions of Liabilities and Advantages of Rural Practice to MBTI Types

Liabilities of Rural Practice	Are Probably Most Important to
Lack of opportunities for professional growth	N, T
Limited access to continuing medical education programs	N, T (but this depends on how practical the programs are)
Hours of practice	N, P (because -S-J are more likely to save time for personal life)
Lack of medical facilities	T
Lack of consultative services	E, N
Lack of emergency facilities	-
Long distances to hospitals	N
Limited cultural advantages	N, I
Limited availability of educational facilities	N, I, T (It would be interesting if availability of Educational Television helped here)
Restricted social activity	E, N
Lack of privacy	I
Lack of a thriving community	E, N

Advantages of Rural Practice	Are Probably Most Important to
Feeling of being wanted and needed	F, E
Knowng patients and their families well	F, E, N
Good family relationships	E, S, F
Opportunity for community leadership	E, F
Ability to form close, lasting friendships	I
Avocational (hunting, fishing etc.)	S, E

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2. Predictions of Type Differences in Practice in Underserved Areas

The issues discussed in this section of the monograph are addressed specifically to underserved areas, but they are only a specific example of the more general questions about type differences in selection of professions, of specialties, and of practice settings. Within our present area of concern, we see the following as reasonable hypotheses:

a. Type Differences in Motivations to Serve in Underserved Areas

(1) The appeal of the "simplicity" of life in rural areas should be stronger for sensing types, who should be better able to accept and enjoy the tasks of everyday practice. Settings with recreational facilities should be especially attractive to sensing types.

(2) The crisis of the cities has created a level of stress and complexity that may cause types who ordinarily would prefer cities to wish to escape to rural areas.

(3) Certain types (especially IS-J) are strongly motivated to perform tasks when they see the need with their own eyes. If students of these types participate in projects where the needs are clear, they will be more likely to try to meet these needs after graduation.

(4) Certain types (especially ES-- types) like to be in situations where their past experience has provided guidelines for action, and where they feel secure and at home. Students of these types who participate in training settings typical of, or actually near to, the communities from which they came, will be more likely to return to such settings after graduation.

(5) Certain types (especially -NF- types) are idealistic and committed to improving the lot of others. These types will seek to serve in underserved areas for idealistic reasons. Since they need challenges (N) and appreciation (F), they may become disenchanted and leave if these needs are not met.

(6) Certain types (especially the -NT- types) enjoy programmatic work and large systems. They are unlikely to be attracted to underserved areas unless there is the challenge of a program to be built, or some tie-in to a research center (especially INT's).

b. Type Differences in Length of Stay

(1) Certain types (especially -S-J types) are more likely to chose a path and stay on it, and therefore will be more likely to remain in communities where they establish a practice.

(2) Intuitive types (especially -N-P's) are attracted by the challenge of new possibilities. They are unlikely to remain for a lifetime in rural areas, but may contribute greatly while they are there.

(3) The length of stay of intuitive types can be increased by enriching the setting. Possible ways of enrichment are:

(a) Service as a preceptor to students and residents, as a way of keeping in touch professionally and maintaining stimulation by discussing issues of rural care.

(b) Opportunities to get away for training, with adequate coverage.

(c) Rural communities give an opportunity to study all generations of families in stable systems. They thus provide a unique microcosm or laboratory for understanding the interrelationship of heredity, family interactions, life stress, nutrition, health history and the myriad other factors which lead to illness. Many intuitive types can find the challenge of understanding these complex relationships very attractive. Projects which let them share their observations would maintain motivations for remaining in their "laboratories." Such projects also might well make major breakthroughs in understanding prevention of disease on a broad level.

(d) Intuitive types will be more likely to overlook important practical considerations when choosing practice settings. Programs which make sure that often-overlooked facts are brought to their attention should have a higher rate of retention.

c. Community Relationships

Feeling types will be more attuned to the warmth of the emotional climate in the setting, and will exert more effort in bringing about harmony. They will also be more stressed if harmony cannot be achieved.

Thinking types are more likely to alienate communities inadvertently by stressing what logically should be done without considering enough the viewpoints of the permanent residents.

Extraverts, and especially E--J types, may alienate communities by wanting too much movememnt too rapidly, without taking time to understand the communities' goals and established attitudes.

These hypotheses are not to be considered an exhaustive list of all possibilities, but rather as a demonstration of the way theory and our present preliminary data might be used to frame questions that take type differences into account.

3. Strategies for the Future

It is time to carry out carefully-designed, rigorous, large-scale studies of type differences in all steps of career choice and the outcomes of choices. Though the scattered findings tend to support the theory, we must separate those that are merely chance events in a welter of data from those that are solid and replicable indications of real events.

We know that all types serve in underserved areas, but not all in the same proportions, and apparently not all for the same reasons. But we know next to nothing about the ways in which different types make the choices that determine their future careers, nor do we know what constellation of factors in the individual, in the training setting, and in the practice setting, maximize each person's competence and satisfaction.

It would be extremely interesting to understand more about type differences in the professionals who stay in rural areas and those who leave. It would be useful to compare those who serve the poor in rural areas and those who serve the poor in the inner city; are there differences in types who give full-time service to the poor, and those who serve part-time as a voluntary addition to regular practice commitments?

There are a number of strategies toward finding answers to these questions. The Myers-Briggs Type Indicator could be added to the data being collected on studies already in progress, thus permitting analysis of type differences on the other research variables.

Consortia of researchers, collecting some data in common, could collect samples large enough that we could begin making predictions for each of the 16 types separately—what are the variables that best predict whether ENFP's will serve in rural areas? ISTJ's?

Ideally, we would like to know how pre-medical students of each type make the many choices that determine the course of their careers. If we wait for today's students to be studied from application through medical school, internship, residency and practice, we shall not have answers for years. However, a body of data in longitudinal studies of medical schools already exists. Many students from these studies are now in practice. With cooperation of schools, which our inquiries suggest would not be difficult to arrange, large numbers of each of the 16 types could be drawn from graduates of these schools. Among samples drawn could be students who did or did not move to smaller communities, or choose a practice which primarily serves the poor.

We have tried to show in this review how program planners can take type differences into account in building incentives and supports for different types into their programs. We believe that programs will be better if planners use the insights of Jung's theory of psychological types. However, solid data will obviously make the theory a more useful tool as we have more precise knowledge of its power and its limitations.

At this early stage, we can at least always ask, How would each type respond? Until we have data to the contrary, our best assumption is that, under certain conditions, members of all types will find satisfaction in practicing in underserved areas; and, under certain other conditions, members of all types will avoid underserved areas. We assume that certain types, especially those with sensing and those will feeling, will more often choose underserved areas, but we do not believe other types should be discouraged, or persuaded. With appropriate direction of effort, our understanding of these issues could be greatly increased in a very short time.

PART VI

OTHER INDIVIDUAL DIFFERENCES

A. Sex Differences

Some years ago Murray and Kluckhohn (1953) made an observation that has become a valuable reminder for all students of personality: "Every man is like all other men, like some other men, and like no other man."

This statement can be paraphrased in terms of psychological types: "Every member of a type is like all other members, like some other members, and like no other member of that type."

By definition, all members of the same type are alike in their preferred processes of perception and judgment, and in the attitudes where these processes are typically used. Within each type will be groups of similar members. For example, all ISTJ's in medicine will share experiences different from those of ISTJ's in engineering or ISTJ's in business. Within the ISTJ's in medicine, the many ISTJ's in obstetrics and gynecology will share experiences, and perhaps attitudes and skills, quite different from those of the relatively rare ISTJ's in psychiatry. Finally, each ISTJ has a combination of life history and experiences which are unique--like those of no other ISTJ.

The relevance of these observations in this chapter is that two major human groupings—sex and race—may also contribute to within-type differences. To our knowledge, no careful studies have yet been carried out to study in detail the ways in which males and females, or blacks and whites, of the same type may differ in manifesting type preferences. Such studies are beyond the scope of this descriptive project. To prepare the groundwork, however, analyses were made of sex differences in type preferences for health careers. Some of these analyses were described in section II of this report.

Type and sex interactions were expected for two kinds of reasons. One of these relates to the psychometric characteristics of the MBTI and the way types are distributed in the population at large. The other relates to the historical and present factors which cause some health careers to be filled predominantly by males, and others predominantly by females.

1. Sex Differences and TF Differences in Health Careers

Both thinking and feeling types are attracted to health careers. As is consistent with research in non-health careers, feeling types are found in careers where service to others is a major component, and thinking types in fields where scientific and technical skills are important. Fields of health require both service and technical skill, but fields differ in the relative importance of each.

a. Sex Differences in the TF Scale.

In scoring the MBTI, the TF scale is the only one which requires separate keys for males and females. Myers found, and today's samples show, proportionately more feeling types among females. The stereotypes of American culture associate the qualities of thinking (objectivity, logic and coolness) with males, and the qualities of feeling (empathy and compassion) with females. Yet substantial numbers of males prefer feeling, and females prefer thinking. In the original development of the MBTI, Myers used great care in establishing item weights, to allow for cultural pressures and to increase the likelihood that persons scoring near the midpoint would be assigned their true preference. She noted in the 1962 *Manual*, however, that more work needed to be done, especially in item weights used for females.

In the 1960's, a major shift of attitudes in the United States challenged the stereotypic sex roles, and made humanistic values more acceptable. As a result, the feeling answers of the TF scale have become more popular. Myers has just completed revision of the weights of the TF scale to allow for the current social desirability of each item for males and females separately. As part of this work, the University of Florida sample of over 3000 students was rescored using the new item weights. With the revised scoring, the number of feeling types in women dropped by 7.5% and in men dropped by 16.6%. The proportions of T and F in both sexes, under the revised scoring, have returned to the original proportions of Myers' early work.

The practical effect of this psychometric technicality is that the data reported in this project may overstate slightly the actual numbers of feeling types in both males and females.

Another technical point to be mentioned in passing is that there may be geographical differences in type preferences. The suggestion has been made that feeling types may be more frequent in the South. Since the CAPT data bank has more cases from the Southeast, our data may have more feeling types than will be found when truly representative samples have been collected. If this should occur, our best judgment is that the difference will be a small one.

b. Predictions Relating to Sex Differences and Thinking-Feeling

(1) For each field of health, the proportion of feeling types in women will be higher than the proportion in men.

(2) Fields with relatively more emphasis on science and technical skills will attractive relatively more thinking types. Fields with relatively more emphasis on caring for or understanding patients will attract relatively more feeling types.

(3) Even though feeling types may be in the majority among women in scientific and technical fields, there will be relatively more thinking types than are found in high school or college.

2. Differences within Health Fields which Affect Type Distributions

Some health careers historically have been primarily male, and others primarily female. As in most societies, male careers carry higher prestige than female careers.

When a minority group enters a high-prestige career, certain qualities increase the likelihood of success. A pioneering spirit and an trust in new possibilities are contributed by intuition. An objective and toughminded approach which protect against the personal sensitivities of being treated as an outsider or interloper, are contributed by thinking. And a determination to achieve a longrange plan is given by the judging attitude.

Our expectation was, therefore, that women (and other minorities) in medicine, dentistry, and perhaps pharmacy would have relatively more types with N, T or J.

The picture is less clear when female careers are being entered by males. It is a common observation that the relatively few males in these careers move rapidly to executive positions, and one possibility therefore was that males in these fields might include relatively more of the executive TJ types. Another possibility was that many males who prefer feeling are attracted to careers where understanding and compassion are important, and these fields happen to have substantial numbers of feeling types.

The following differences were expected in health careers:

a. Type distributions of males and females in the same field will be similar. This expectation rests on the assumption that careers attract types whose interests match the tasks to be done.

b. In all health fields, the proportion of feeling types will be higher in females than in males.

c. Distributions of females in careers where males are in the majority will have more intuitive types, thinking types and judging types.

3. Comparison of Type Distributions for Males and Females

For each field of health with data available for analysis, the sex differences in type distributions were described in Part II.

Table 94 summarizes and compares the percentages of males and females for each of the four MBTI preferences, EI, SN, TF, and JP, and for the four combinations of perception and judgment, ST, SF, NF and NT.

Since the MBTI cannot be scored without knowing a person's sex, readers may wonder why sex is not known for all cases. The reason, explained in Part I, is that only the 19,000 cases from the health tape had all

Table 94
Sex Differences in MBTI Preferences in Fields of Health

Fields of Health	Number		Percent in MBTI Preference Groups							
	Total	Sex Known	E	S	T	J	ST	SF	NF	NT
MEDICINE										
Myers Longitudinal Study	5355	5355	51	47	54	47	25	26	24	29
Males		5057	51	48***	55***	46***	26***	22	23***	29
Females		298	52	33	44	60	14	19	37	30
Pre-Medical Students	362	362	60	44	43	68	22	22	34	22
Males		232	56**	47	46	68	25	22	33	20
Females		66	74	42	39	61	20	23	38	20
Medical Students	5982	3024	48	39	43	58	19	20	37	24
Males		2450	46	39*	45**	58	21***	19	36*	24
Females		574	49	34	39	58	14	20	41	25
Physicians	1881	900	42	47	48	66	27	20	31	22
Males		777	39	44	47	63	25	19	34	23
Females		123	35	45	42	61	21	24	34	21
DENTISTRY										
Dental Students	1046	285	53	59	50	69	30	28	22	20
Males		238	50	52	48*	65	27	25**	26	21
Females		47	57	62	32	64	17	45	23	15
NURSING										
Nursing Students	7625	5405	58	60	26	61	18	43	31	8
Males		198	53*	56	45***	53**	29***	26***	28	16***
Females		5207	60	61	26	62	18	43	31	8
Registered Nurses	2635	840	48	58	32	60	20	38	30	12
Males		33	58	39	45*	58	21	18	36	24**
Females		807	46	54	29	58	20	34	36	10
Nursing Assistants	171	171	51	64	27	56	16	47	26	11
Males		44	50	36***	48***	45	23	14***	39*	25***
Females		127	51	73	20	59	14	59	21	6
PHARMACY										
Pharmacy Students	2433	2122	48	56	47	59	27	29	25	19
Males		1438	47	56	53***	60	30***	26**	21***	22***
Females		684	48	55	38	56	22	33	30	16
Pharmacists	279	120	46	52	50	63	28	24	26	22
Males		85	49	54	54	69*	32	22	24	22
Females		35	34	37	51	46	26	11	37	26
VETERINARY MEDICINE										
Veterinary Students	121	121	51	48	36	55	19	29	35	17
Males		82	50	52	39	55	21	32	29	18
Females		39	54	38	31	56	15	23	46	15
PHYSICAL THERAPY										
Physical Therapy Students	1091	459	55	56	28	56	19	36	35	9
Males		98	39*	49	37**	52	23*	26**	38	13
Females		361	53	55	23	54	14	42	35	9
Physical Therapists	155	153	41	58	29	52	22	36	35	7
Males		41	[illegible]	54	49**	49	32	22*	29	17**
Females		112	[illegible]	61	22	54	19	42	36	4

Table 94 continued

Fields of Health	Number		Percent in MBTI Preference Groups							
	Total	Sex Known	E	S	T	J	ST	SF	NF	NT
CLINICAL LABORATORY SERVICES										
Medical Technology Students	705	422	49	60	39	65	22	38	23	17
Males		81	60*	57	53*	72	26	31	16	27
Females		341	46	60	38	60	20	40	22	18
Medical Technologists	973	601	44	61	43	67	28	33	24	15
Males		88	60	65	52	74	34	31	17	18
Females		513	40***	61	40*	68	25	36	24	14
Laboratory Technologists	167	167	47	58	43	56	28	30	27	15
Males		88	50	53	51*	57	32*	22	27	19
Females		79	43	63	34	56	24	39	27	10
PSYCHOLOGICAL AND COUNSELING SERVICES										
Psychology Majors	843	843	52	24	32	38	10	13	55	21
Males		393	46***	25	38***	38	12	12	50**	25***
Females		450	57	23	27	39	9	14	59	18
Rehabilitation Couns. Students:	98	98	48	38	16	40	7	31	53	9
Males		35	51	34	23	49	11	23	54	11
Females		63	46	40	13	35	5	35	52	8
Counselors: School	287	287	64	39	30	53	17	22	48	13
Males		115	65	44	33	55	19	25	42	14
Females		172	63	35	28	52	15	20	52	13
Counselors: General	359	359	56	33	24	47	13	20	57	11
Males		148	45***	39*	32**	50	17	22	46***	15*
Females		211	64	28	18	45	10	18	64	8
Psychologists	289	126	51	81	58	56	11	8	50	31
Males		77	60	13	34	49	6	6	60	27
Females		49	55	12	33	37	4	8	59	29
RADIOLOGIC TECHNOLOGY										
Students & Practitioners	267	174	61	60	33	50	21	39	28	12
Males		30	57	67	63***	47	40**	27*	10*	23***
Females		144	60	64	21	47	16	48	31	5
RESPIRATORY THERAPY										
Respiratory Th. Students	353	147	59	59	38	56	21	38	24	17
Males		77	51	66	53*	64*	31	35	12	22
Females		70	59	63	34	46	19	44	21	16
Respiratory Therapists	127	127	50	57	50	45	27	30	20	24
Males		73	42	58	66***	55**	37**	21**	14*	29
Females		54	59	56	30	31	13	43	28	17
SOCIAL WORK										
Social Work Students	140	140	53	41	28	36	14	27	45	14
Males		34	47	32	38	32	6	26	35	32***
Females		106	55	43	25	38	16	27	48	8
Social Workers	169	162	62	31	28	47	14	17	55	14
Males		37	59	22	35	49	14	8	57	22
Females		125	60	35	26	48	15	20	54	11
COMPARISON POPULATIONS										
High School Jrs & Srs.	6738	6738	56	57	35	44	21	35	29	14
Males		3907	52***	58*	45***	45*	28***	30***	25***	17***
Females		2831	62	55	21	42	12	43	36	9
College Freshmen	11122	11122	55	56	33	53	20	36	32	13
Males		4666	49	54	42	51	25	29	28	17
Females		6456	59***	56*	26***	54**	16***	40***	34***	9***

Notes: Percentages for main samples are based on totals, not on those for whom sex is known.
* *p* <.05, ** *p* <.01 and *** *p* <.001 based on Chi Square comparing males and females.

identifying information, including sex, available for computer analysis. Cases added in groups and most cases from outside sources were not included in the analyses of sex differences. As can be seen from Table 94, many of our samples are very small. We consider these data best used for hypothesis generation in studies with more representative samples. In the fields where students and practitioners show similar sex differences, more confidence can be placed in the data.

a. Similarity of Type Distributions

In the main, there are more similarities than differences in the male and female distributions for the same health fields. In 104 comparisons, 33 significant sex differences were found. Fifty-two percent of these were in TF, as expected. EI accounted for 21%, SN for 12%, and JP for 15%.

The fields of health were ranked separately for males and females, for each of the four MBTI preferences. When rankings for males and females were compared, the highest rank order correlation was found for the SN preference (rho .65, probability .01). Myers has said that the SN preference is the most important in career choice since it defines the activities and materials of life which are of greatest interest. The rankings on TF yielded a correlation of .49 and JP of .46, both with probabilities of .01. The lowest correlation was in rankings for EI, and here the correlation was a nonsignificant .21.

Thus, despite some very substantial sex differences in some fields, in the main the fields of health appear to be attracting similar types in both males and females.

b. Greater Numbers of Feeling Types among Females

In all 26 comparisons, the percentage of thinking types among males is higher than that for females. Thus, as predicted, the percentage of feeling types is higher for females in all health fields.

c. Type Differences in Fields Predominated by Males or by Females

In the fields with mainly males, the proportion of intuitives was higher in 6 instances for females, and 2 instances for males. In fields made up mainly by women, the proportion of intuitives was higher for males in 9 instances, and for females in 2. In these rough preliminary analyses, therefore, it appeares that pioneering intuitives of both sexes are likely to be found in fields where the opposite sex is in the majority.

In the Myers Longitudinal Medical Study, there were significantly more -N-J females (ratio 1.59***) and --FJ females (ratio 1.61***). In present-day Ohio State medical students, there were significantly more --FJ females (1.26**) but not -N-J females. Intuition, and to some extent judgment, seem to be associated with "pioneering."

d. Thinking Types in Technical vs. Patient-Oriented Fields

It was expected that fields with relatively more emphasis on science and technology would have more thinking types than fields whose primary emphasis was understanding and caring for patients. To test the hypothesis, fields in the top and bottom thirds of the rankings for TF were compared, for both sexes.

Fields in the top 9 rankings were:

%	Males	%	Females
66	Respiratory Therapy	51	Pharmacy
63	Radiologic Technology	44	Myers' Medical Students
55	Myers' Medical Students	42	Physicians (CAPT composite)
54	Pharmacists	40	Medical Technologists
53	Pharmacy Students	39	Pre-Medical Students
53	Medical Technology Students	39	Medical Students
53	Respiratory Ther. Students	38	Pharmacy
52	Medical Technologists	38	Medical Technology Students
51	Laboratory Technicians	34	Laboratory Technicians

Fields in the bottom nine rankings were:

%	Males	%	Females
39	Veterinary Medicine	26	Nursing Students
38	Psychology Majors	26	Social Workers
38	Social Work Students	25	Social Work Students
37	Physical Therapy Students	23	Physical Therapy Students
35	Social Workers	22	Physical Therapists
34	Psychologists	21	Radiologic Technologists
33	School Counselors	20	Nursing Assistant
32	General Counselors	18	General Counselors
23	Rehabilitation Couns. Stud.	13	Rehabilitation Counseling Stud.

The rankings are in accord with the predictions, to the extent that fields with high science requirements, such as Medicine, Medical Technology and Pharmacy ranked higher than psychologically oriented fields concerned with understanding communications. The hypothesis should be tested more rigorously when adequate samples of both sexes for more health fields are available.

4. Summary and Implications

The findings on sex differences at this point can be summarized as follows:

a. In the main, careers attract similar types of both males and females.

b. The sensing-intuition preference shows most consistency for both sexes, and the extraversion-introversion preference shows the least consistency.

c. In several instances, the distributions of the two sexes were enough different to have important practical consequences. In our samples, males in Clinical Laboratory Services had significantly more of the action-oriented, decisive types. It is reasonable to expect that many of them will move into management positions. In Physical Therapy many males were thoughtful, innovative types. These types can move into management positions but are less likely to do so. We do not expect these findings to hold up in their entirety, but they do show the importance of paying attention to sex differences within type differences when studying health professions.

d. There is some evidence that intuitive types and judging types are more likely to "pioneer" in fields where their sex is in the minority.

e. Information on the strength of preference, as derived from MBTI continuous scores, can sometimes add information beyond what can be learned from the type distributions alone. Rezler and Buckley (1977) also found these scores useful in differentiating among females in different health professions.

f. There are as yet no good studies of the differences in which males and females of the same type choose their careers, learn professional tasks and roles, select work settings, or perform the activities of practice. It will be very useful to ask such questions as how ENFP female Nurses practice differently from ENFP male Nurses, or how ESFJ male Pediatricians behave differently from ESFJ female Pediatricians.

In short, the best working hypothesis at this stage still seems to be that careers are attractive because they call on people to use specific type-related skills, and to hold type-related attitudes. To the extent to which this hypothesis is true, type will be a more important predictor of career choices than will being a male or a female. There will be more similarities than differences in the type distributions of males and females in the same health field.

However, educators, researchers and program planners should be alert for situations within the career itself, and within the larger society, which exert different pressures on males and females in making career decisions. Differences arising from these pressures can have important practical consequences if they cause type distributions of males and females in the same field to become widely dissimilar. It is very likely that situations may arise which appear to be discrimination for or against males and females, but which can more simply be explained as a natural consequence of the differences in the types of the persons involved.

B. Race Differences

In recent years, a number of psychologists and educators have been assessing the validity of standard instruments in different subgroups of the population, in order to learn when cultural and racial differences need to be given greater weight in interpreting test findings.

Since Jung's theory is based on mental processes and attitudes believed to be shared by all members of the human race, an instrument based on his theory should represent properties which transcend cultural differences. Even so, any instrument is bound to have some limitations imposed by the language and culture of its author.

Type theory is concerned with valuable differences among people, and each of the 16 types has its own special excellence. There is no particular reason to expect—or to wish—that all cultural groups should have similar type distributions, or that all cultural groups should have very different type distributions. There would, however, be important practical implications if indeed cultures should vary widely in the proportions of types If frequent types in one culture were rarely found in another, communications between the two cultures could be more difficult.

So far as we know at present, all 16 types appear in all cultures. The important question at present is, How do the social systems of racial and cultural groups facilitate or thwart the type development of each of the 16 types? Jung believed that human beings have a consitutional predisposition to develop along the lines of their basic preferences. If a child is continually thwarted in attempts to become his most true self, the effects may appear in later life as failure to reach his potential, or through emotional distress in the form of an adult neurosis. In the theory, therefore, the task of families, schools, and the larger society, are to help children discover and develop along the lines of their own preferences for using their mental processes.

In order to gain a true understanding of racial and cultural differences in Jungian psychological types, some practical questions will need to be answered:

> Does the MBTI provide the same opportunity to all cultural groups for reporting their type preferences validly?
>
> How do family, cultural and economic factors affect the development of sensing, intuition, thinking and feeling, and how do they affect expression of the extraverted and introverted attitudes?
>
> If we find MBTI differences between groups, do these come from "true" and basic differences? or do they reflect pressures to falsify one's type to meet one's group's expectations? or do they reflect the fact that opportunities are lacking for any but the hardiest of rare types in the group to develop their own preferences?

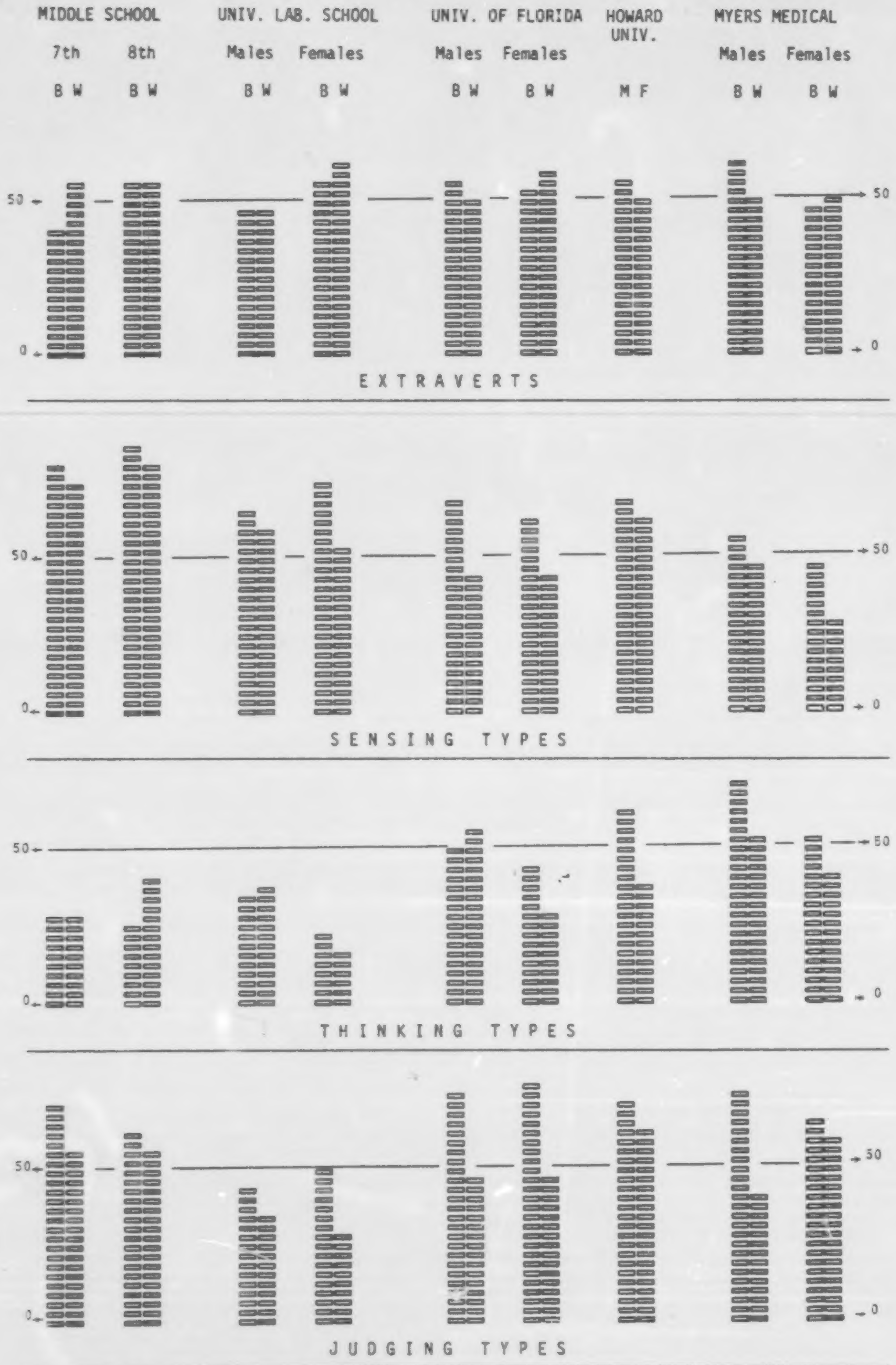

Figure 18
Comparison of Black and White Students for Percent of Extraverts, Sensing Types, Thinking Types and Judging Types

Table 95
Percentages in Each MBTI Type for Samples of Black and White Students

DESCRIPTION OF SAMPLE	NUMBER	PERCENT IN EACH MBTI TYPE															
		ISTJ	ISTP	ESTP	ESTJ	ISFJ	ISFP	ESFP	ESFJ	INFJ	INFP	ENFP	ENFJ	INTJ	INTP	ENTP	ENTJ
Rural Florida Middle School																	
Seventh Grade: Black	70	7.1	8.6	2.9	5.7	25.7	4.3	4.3	22.9	7.1	2.9	1.4	1.4	0.0	1.4	2.9	1.4
White	98	6.2	2.1	1.0	7.2	13.4	15.5	11.3	18.6	1.0	3.1	6.2	4.1	2.1	1.0	3.1	4.1
Eighth Grade: Black	53	9.4	1.9	3.8	9.4	17.0	11.3	13.2	20.8	3.8	0.0	5.7	1.9	0.0	0.0	1.9	0.0
White	63	14.3	7.9	7.9	3.2	6.3	7.9	14.3	19.0	1.6	1.6	3.2	4.8	3.2	0.0	1.6	3.2
Florida State University Laboratory School																	
Grades 7-12 Males: Black	57	8.8	8.8	1.8	5.3	7.0	15.8	7.0	10.5	1.8	7.0	8.8	7.0	1.8	1.8	3.5	3.5
White	199	5.0	6.0	7.0	7.0	5.5	10.1	10.6	7.5	3.5	13.1	8.5	3.0	3.0	4.5	4.5	1.0
Grades 7-12 Females: Black	61	3.3	1.6	4.9	4.9	14.8	11.5	14.8	18.0	4.9	3.3	4.9	3.3	1.6	3.3	4.9	0.0
White	194	1.0	3.1	4.1	4.1	4.1	12.4	13.9	9.8	2.1	10.3	22.7	6.2	1.0	1.5	2.6	1.0
University of Florida Entering Students, 9/72																	
Males : Black	60	8.3	1.7	3.3	18.3	13.3	8.3	0.0	15.0	3.3	1.7	6.7	1.7	3.3	3.3	0.0	11.8
White	1381	7.6	4.1	2.6	6.7	5.3	5.2	6.1	6.2	4.6	11.3	12.4	5.9	5.8	6.2	5.4	4.6
Females: Black	74	13.5	2.7	1.4	18.9	14.9	5.4	5.4	14.9	4.1	1.4	1.4	5.4	1.4	2.7	1.4	5.4
White	999	4.0	2.0	1.7	7.3	7.6	5.2	5.7	10.4	4.5	12.1	17.7	7.8	2.0	3.7	4.8	3.4
Howard University Students (Levy et al., 1972)																	
Males	311	15.1	3.5	4.8	24.8	8.0	1.6	2.6	7.4	2.6	3.9	4.5	5.1	4.8	4.2	1.6	5.5
Females	448	11.8	3.3	2.7	10.0	13.4	4.9	3.6	12.7	4.0	6.7	8.3	6.0	2.5	3.6	4.0	2.5
Myers Longitudinal Medical Study																	
Males from Predominantly Black Schools	434	10.1	4.8	4.4	22.6	4.8	1.2	1.6	8.5	2.5	1.2	3.0	5.5	6.9	5.8	3.5	13.6
White Schools	4623	5.5	6.2	5.5	6.9	4.5	5.6	6.1	6.4	3.7	7.8	8.3	4.7	6.2	10.3	7.1	5.3
Females from Predominantly Black Schools	41	12.2	0.0	0.0	14.6	4.9	2.4	0.0	14.6	2.4	12.2	4.9	4.9	7.3	9.8	4.9	4.9
White Schools	257	6.6	1.6	1.2	2.3	5.1	1.2	3.9	8.6	10.9	7.4	12.1	9.0	8.2	7.0	7.0	8.2
Range of Scores: Black Low	-	3.3	0.0	0.0	4.9	4.8	1.2	0.0	7.4	1.8	0.0	1.4	1.4	0.0	0.0	0.0	0.0
High	-	15.1	8.8	4.9	24.8	25.7	15.8	14.8	22.9	7.1	12.2	8.8	7.0	7.3	9.8	4.9	13.6
White Low	-	1.0	1.6	1.0	2.3	13.4	1.2	3.9	6.2	1.0	1.6	3.2	3.0	1.0	0.0	1.6	1.0
High	-	14.3	7.9	7.9	7.3	4.1	15.5	14.3	19.0	10.9	13.1	22.7	9.0	8.2	10.3	7.1	8.2

Notes: Data from middle school, laboratory school, and University of Florida from projects of McCaulley and others at CAPT. Data from Howard University taken from Levy, N., Murphy, C. & Carlson, R, 1972. Data on medical students from Myers Longitudinal Medical Study reported by McCaulley, 1977.

It will take years to answer these questions, but some small beginnings have been made and will be described in the following sections.

1. Type Differences Across Cultures

The MBTI in Japanese translation is used at the Nippon Recruit Center in Tokyo. Over 300,000 workers and managers in business and industry have been tested (Ohsawa, 1975). Where jobs can be compared in Japan and the United States, the same types are attracted to jobs in both cultures. Because of some technical problems in the construction of the Japanese version, it is not yet possible to test out hypotheses about the two cultures, such as the possibility of a difference in the proportion of extraverts and introverts.

Isabel Myers has given permission for translation to other languages, and CAPT has heard of projects pending or already in progress in Hawaii, Africa and South America. A major cross-cultural effort is underway by Professor Nissim Levy of Howard University, and results should be available in about five years.

2. Type Differences in Blacks and Whites in the United States

The data seen in projects of CAPT and in the few studies that have been published show two major facts:

> Blacks and whites are found in all 16 types, and comparable populations have similar type distributions.
>
> Black samples often have a higher proportion of sensing types and judging types than comparable white samples.

Figure 18 shows the comparison of black and white student samples for each of the four MBTI preferences. The samples include a rural middle school in central Florida, with 70 black and 98 white 7th graders, and 53 black and 63 white 8th graders. The University Laboratory School sample includes 7th to 12th grade students at Florida State University, tested as part of a project to study disruptive students (McCaulley and Natter, 1974). There were 57 black and 199 white males, and 61 black and 194 white females. The University of Florida sample includes students entering in the fall of 1972, tested as part of a project to improve academic advisement at the University. There were 60 black and 1381 white males, and 74 black and 999 white females. All these samples were part of projects in which CAPT participated. The Howard University students, 311 males and 448 females, were tested by Levy, Murphy and Carlson (1972) and reported in their study of negro college students. The medical students were tested by Isabel Briggs Myers in the 1950's and are reported in Monograph II (McCaulley, 1977). There were 434 black and 4623 white males, and 41 black and 257 white females. The percentages in each of the 16 MBTI types for the same samples appear in Table 94.

As Figure 18 shows, there are few differences in the proportion of extraverts. Where there are differences, white students have more extraverts three times, and black students twice.

With the thinking preference, there is also no consistent pattern. In light of hypotheses that thinking judgment may be somewhat later in developing than other functions, it is interesting to note that the younger students have fewer thinking types than the older groups.

For both sensing and judging preferences, there is a consistent pattern. Black students have more S's and J's in all groups, although the differences are not large. (It is typical for sensing and judging preferences to follow similar patterns, as the two preferences are positively correlated in most samples.)

If future studies continue to confirm that black samples have more sensing types, this fact will have practical importance, especially in interpreting racial differences in academic aptitude and achievement. Data presented in Part III made the point that intuitive types have an edge over sensing types in written tests of aptitude and achievement, particularly if these are timed. However, our data thus far seem to indicate that sensing and intuitive types do equally well when evaluated for actual clinical performance. Any population with proportionately more sensing types can be expected to score lower on written aptitude measures than a similar population with proportionately more intuitive types.

There is a wide body of research showing that black students tend to achieve lower scores on aptitude and achievement measures than white students. There appears to be little doubt that much of this difference can be accounted for by differences in schools, differences in motivation and, particularly in culturally-deprived areas, by lack of social support and role models stressing academic success. Our data do not negate the importance of less adequate schools and cultural deprivation as factors in lower measured achievement of black students. However, our data suggest that part of the difference between black and white students may also be attributed to the larger numbers of sensing types in black students. As we learn more about effective teaching for sensing types, black students should be especially benefited.

3. Use of the MBTI with Black Populations

To our knowledge, there are no carefully controlled studies comparing the adequacy of the MBTI as an instrument for indicating type in different races. The following observations suggest that the MBTI will be applicable for black as well as white populations.

a. In the Myers Longitudinal Medical Study, the same patterns of type differences were found in students from black schools and in students from white schools. Similarities occurred both in academic measures and in specialty choices. (Data on urban and rural residence were given in Part V.)

b. In a pilot study to identify response patterns in the MBTI which might predict medical internship performance, Myers compared graduates of Howard University Medical School and the University of New Mexico Medical School.

Myers first developed her research patterns from responses of the predominantly black Howard sample, and cross-validated them on the predominantly white New Mexico sample. The results are presented in Part III of this report, but their importance here is that the strategies were different from other studies. In this case, the results were first developed with blacks and then later found to be true also of whites.

c. A series of studies at Howard University have tested the construct validity of the Type Indicator. The importance of the studies for our present purpose is that Jung's theory was validated using black students and using the MBTI as the measuring instrument.

In the first study, Carlson and Levy (1973) found predicted differences between introverted thinking females and extraverted feeling females in two kinds of memory tasks (digit span and memory for faces.) In the second study, other specific memory task structures were found to have predicted type differences. In the third study, -N-P types were found to be more accurate in judging facial expressions than -S-J types. In the fourth study, significantly more EN-P types were found volunteering for social service assignments. (These were the same types most frequently found as crisis volunteers in data processed at CAPT.)

The importance of these admittedly preliminary studies is the evidence they give that Jung's theory and the MBTI are tapping human qualities which cut across race and cultural groupings.

d. A large number of faculty and counselors at the University of Florida and elsewhere are now using the MBTI as a classroom teaching tool and in academic advisement. The staff of CAPT have had extensive conversations with MBTI users. They report no differences in the proportions of black and of white students who agree with MBTI reports, and they find that suggestions growing out of type theory seem applicable for both black and white students. No rigorous test of these "clinical" observations has been made, to our knowledge.

So far as we can now judge, the MBTI is holding up as a useful instrument for use with black as well as white populations.

4. Type Differences and Race Differences in the Health Professions

In our review of type data in the health professions, we had planned to include a series of type distributions of black and of white students and practitioners for each health field. We planned to include race in all the studies of motivation and interest, selection, aptitude and achievment, and career planning. We were disappointed in this hope.

We asked contributors to this project to give us type distributions broken down by black and white students and practitioners. A few were able to do so, but the numbers were so low and so unrepresentative that we chose not to report them. The few data we received were in the directions reported earlier—there were more sensing types and judging types in black samples compared to white samples.

The CAPT data bank can record race as a variable, but the MBTI answer sheet does not ask for information about race, and therefore there were too few cases in the data bank to be reported here.

It is an unfortunate consequence of past efforts to avoid discrimination that school records often do not permit identification of the race of their students. Neither the special excellences nor the special weaknesses associated with minority group membership can be studied.

One doctoral dissertation (Hill, 1974) compared small samples of Clinical Laboratory personnel in a predominantly black and a predominantly white teaching medical center. As in other samples, there were more sensing types in the black hospital; however, the more important finding was that there were more similarities than differences in the two populations. Similar types were attracted to Clinical Laboratory occupations in both races. The study was described in Part IV of this monograph.

Even had we not run into the difficulties described above, we are now much more aware than we were at the beginning of the importance of large samples if we are to understand within-type differences. In Section A, we noted that we shall need larger samples to learn how female ENFP Nurses practice differently from male ENFP Nurses, and how male ESFJ Pediatricians behave differently from female ESFJ Pediatricians. We now have additional questions. How do black male ESFJ Pediatricians and white male ESFJ Pediatricians differ from black female ESFJ Pediatricians and white female ESFJ Pediatricians? We are not yet even in the position of of studying ESFJ Pediatricians as a whole, and it will take combined efforts before we can answer the question, Are there consistent patterns of subgroups within each type which can increase our ability to understand and predict the behaviors of members of the type?

In summary, the MBTI seems to be tapping similar characteristics in black and white samples, and further work with the MBTI is worthwhile. From the little data we have, the same types in black and in white populations are choosing the same health careers and specialties. When there are major differences, they seem to come from the fact that blacks and women have been a minority in many health and non-health professions. In these fields, the pioneering intuitives and the determined judging types among blacks and women have been more likely to choose the difficult course of being the first to seek admission.

One final comment is in order.

The official name of the Center which produced this report is The Center for

Applications of Psychological Type *for the Constructive Use of Differences.* We take it as axiomatic that differences are useful, interesting, and should be fostered. We believe it is unfortunate that in common usage the word "different" too often is taken to mean "inferior." In discussing sex differences, women often assume the speaker is saying they are inferior to men. In discussing race differences, blacks often assume speakers are saying they are inferior to whites.

Some years ago, in *Screwtape Proposes a Toast*, C. S. Lewis (1964) gave a witty but sobering commentary on the tendencies in democracies to act as if "equality" means that everone should be the same. He pointed out that in a society where democracy is taken to mean that everyone should be alike, there is danger that the citizens will fail to develop their own individual excellence. The government will not have to cut people back, because, through fear of being different, people will cut themselves back to the level of everyone else.

We believe the world today faces problems of such severity that it will take the best efforts of all types to find solutions. We need the intuitives to see better possibilities, and the sensing types to find out how to make them work in practical terms. We need the feeling types to make us aware of the impact of changes on people, and the thinking types to alert us to the unforeseen costs of new courses of action.

Type theory gives a vew of events which focusses on the special gifts and excellence of individuals, and then looks for settings where these gifts can be maximized.

We hope that Jung's ideas can encourage people to look again at the word "differences" so that we look not only at the problems of being different, but at the opportunities that can come from developing individual gifts to high levels of excellence. We believe there are few places where such a change of emphasis will be more valuable than in the comparisons between black and white citizens, and between male and female citizens, in America today.

PART VII

SUMMARY

Preface

The following pages summarize the findings of a project entitled "Application of the Myers-Briggs Type Indicator to Medicine and Other Health Professions." The project was carried out for the Division of Medicine in the Health Resources Administration of HEW, under Contract No. 231-76-0051. The report was prepared by the American Medical Student Association Foundation through its Center for Applications of Psychological Type, in Gainesville, Florida.

Under the contract, four products were prepared.

The major report is *Monograph I: Application of the Myers-Briggs Type Indicator to Medicine and Other Health Professions.* This monograph is desinged as a "state of the art" review of the uses of the Myers-Briggs Type Indicator in health.

The second report is *Monograph II: The Myers Longitudinal Medical Study.* Monograph II brings together all the research on a sample of 5355 medical students from 45 medical schools, tested by Isabel Briggs Myers in the 1950's and followed up at intervals thereafter.

The third product is *Bibliography: The Myers-Briggs Type Indicator.* This is a computer listing of published research and some unpublished papers on the Myers-Briggs Type Indicator, with an author index.

The fourth product is *Executive Summary: Application of the Myers-Briggs Type Indicator to Medicine and the Health Professions.* This summary is designed as an overview of the entire project, and was written to stand alone and be distributed separately. It also is used as the summary for Monograph I.

The following pages are the *Executive Summary.* They have their own table of contents, and pages begin with page 1. Some of the tables in this section have already appeared in early parts of this Monograph. They are repeated here for the convenience of the reader.

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A. Background

The purpose of this project was to bring together and describe what is known about psychological types in medicine and other health professions. The concept of psychological types is one part of the comprehensive theory of the Swiss physician and psychologist, C. G. Jung, who observed that many seemingly random differences in people can be explained if one knows how they prefer to use their contrasting powers of perception and judgment. The theory is concerned with valuable differences in normal people, and the ways people make conscious decisions in directing their lives.

The Myers-Briggs Type Indicator is a questionnaire designed specifically to make it possible to test Jung's theory of types, and to put its insights to practical use. Development of the Indicator began in the early 1940's. It was published as a research instrument in 1962 by Educational Testing Service, and entered the mainstream of psychological tests with its publication in 1975 by Consulting Psychologists Press. During the developmental period a substantial body of data was collected in the health professions; use has increased rapidly in the 1970's. Therefore, it seems timely to bring together what has been learned to help the growing number who use the MBTI in counseling or research in health professions.

An early form of the Indicator was used by the author, Isabel Briggs Myers, in the Myers Longitudinal Medical Study of 5355 medical students from 45 medical schools, tested in the early 1950's and followed up twice thereafter to see if type theory could predict specialty choices. The present form of the Indicator was used by Myers in the Myers Longitudinal Nursing Study of 10,271 students and 670 faculty from 71 diploma nursing schools, tested in 1964-65. In the 1960's, the Indicator was included in longitudinal studies of medical students at the Universities of New Mexico, Ohio State and Washington, and in the 1970's data are being added from medical schools, residency programs, research on teamwork, as well as from pre-medical students in universities. Recently, students and practitioners in dentistry, nursing, pharmacy, medical technology, and physical therapy have been tested in increasing numbers. Other fields, such as optometry, veterinary medicine, or medical records, have very little data at present.

The Indicator can be handscored, but many users send cases for scoring to the Center for Applications of Psychological Type (CAPT) which provides scoring services with the approval of the author and the publisher. The CAPT services grew from research of Isabel Briggs Myers and Mary H. McCaulley, a clinical psychologist at the University of Florida Health Center. The research is designed to understand individual differences within each type and to develop ways for individuals to improve their own type development. Between 1970 and 1976, the research computer program scored over 75,000 Indicator answer sheets and stored the information in the CAPT data bank. About one-third of the cases on the data bank are students or practitioners in the health professions or health-related fields. Users of CAPT scoring services control their own data, but permit CAPT to create composite samples from the data bank using cases scored by the program.

B. Project Tasks and Goals

The project had three major tasks to accomplish:

1. Description of Type Distributions in the Health Professions

The first task was to search the CAPT data bank for all cases giving a health profession as an occupation or, for students, as the major field of study. This process identified 25,258 people. In addition, type distributions were contributed by MBTI users who had scored their own cases. Other data were added from published literature. These "outside cases" added 7,013. The total health sample identified included 32,271 cases, of whom 23,396 were students and 8,875 were practitioners. Medicine accounted for 8,225 cases (6,344 students and 1,881 practicing physicians). Data on an additional 1500 students and 750 physicians are known to exist, but could not be supplied in time for this report. Professions with at least 1,000 cases are medicine, dentistry, nursing, pharmacy, clinical laboratory services, physical therapy, and psychological and counseling services. The distributions of cases in all fields appear in Table 1.

Monograph I organizes and integrates these data. The attractiveness of each health field is estimated, by comparing the types in the field to types of high school and college students, the manpower pools from which health professionals are selected. Information is added on aptitude and achievement, learning styles, choice of specialty, and practice setting.

2. The Myers Longitudinal Medical Study

The first task was to bring together all previous work by Myers on her relatively unknown Myers Longitudinal Medical Study. This included a follow-up of academic achievement in the 1950's, a follow-up of specialty choice and type of practice from the AMA Medical Directory of 1963, and several smaller studies of clinical performance and of deaths. The second task was to conduct a second major follow-up using data from the AMA Physician Masterfile, as of December 31, 1973. These analyses included physician location, type of practice, specialty, employment, American specialty boards, specialty societies, and professorial appointments.

In Myers' follow-up of 1963, she identified 4556 physicians with known specialties. The CAPT follow-up identified 4953. Monograph II makes the entire Myers research available to medicine for the first time.

3. Bibliography of Myers-Briggs Type Indicator Research

Although technically the MBTI is a "new" psychological test, a search yielded 418 references in published or unpublished research. A Bibliography was created, as a computer listing with author index.

The first goal of these projects was simply to describe what is known about type differences in the health professions. No new data were collected.

The second goal was to see whether Jung's theory of psychological types, as implemented by the Type Indicator, could predict or explain individual differences in health careers—interest, selection, aptitude and achievement, learning experiences, specialty choices, and practice settings.

The third goal was to see whether data, at this stage, show trends of interest to those concerned with selecting and training health professionals.

The fourth goal was to use the facts of the studies as the basis of suggestions for practical uses of the Indicator, and for areas where research studies would be most likely to yield valuable information.

Four audiences were expected to find use for the data in these reports.

First, educators might use the information to understand and improve selection, training, evaluation, and counseling of their students.

Second, students and practitioners themselves might use the information in making career plans.

Third, researchers and manpower planners interested in health professions might use the information, and the theory, for generating more productive research hypotheses, and for interpreting research findings.

Finally, psychologists might find the data useful as a validation of an important personality theory.

The first and second groups were given most importance as we assembled and interpreted our results.

In assessing the findings in these projects, it is important to realize that the groups studied were not collected in accordance with any careful plan or research design in mind. The samples include groups tested for specific research purposes, and persons who happened to take the Type Indicator for reasons quite unrelated to their occupations. The health fields are not represented in our samples in the same proportions as they appear in the real world. Some of the smaller fields of health have been much better studied than some of the major fields. Because this is a baseline report, we included professions with at least forty Type Indicators. Any data on the fields with small samples should be considered as extremely tentative. The Indicator is scored to create 16 separate types, which are not equally distributed. Large samples are needed to have enough cases of the rare types to place confidence in results.

Even with these limitations, the trends in the samples are in the directions predicted from the theory, which is described in the following section.

C. Brief Description of the Myers-Briggs Type Indicator (MBTI)

The MBTI is concerned with individual differences in people which result from their preferences in use of contrasting methods of perception and of judgment, and from the attitudes in which these preferences appear. The theory assumes that differences are valuable, and that any complex system (such as health care delivery) will benefit from the skills of different types of people. Youth is a time for discovering one's true preferences, and for developing the motivations and skills associated with them. Type development is a life-long, dynamic process of gaining control over one's own powers and developing balance in their use. Mature type development assumes ability to use all preferences, with greatest skill in those preferred, and adequacy in those less-preferred.

The MBTI generates 16 types, each defined by four letters which stand for the preferred poles of four preferences, EI, SN, TF or JP:

E, the extraverted attitude, in which energy and interest are directed mainly to the world of actions, objects and persons,	or	I, the introverted attitude, in which energy and interest are directed mainly to the world of concepts and ideas.
S, sensing perception, concerned with observing what is real, immediate, and practical in experience,	or	N, intuitive perception, interested in seeing possibilities, meaning and relationships of events.
T, thinking judgment, which is a rational process of reaching conclusions objectively, logically and analytically,	or	F, feeling judgment, which is a rational process of weighing values to decide the importance of issues to oneself and others.
J, the judging attitude, in which the aim is to plan, organize, and control one's environment,	or	P, the perceptive attitude, in which the aim is to understand, experience and adapt to the environment.

The MBTI questionnaire provides a series of questions for each of these bipolar preferences, tapping a wide range of situations in which the preference may appear. The choices for each pole are summed, and the letter assigned for the pole given greater weight. Figure 1 shows the four preferences, and the placement of the 16 types on a type table. The theory postulates specific uses and interactions of the four preferences in each type. The second side of Figure 1 outlines these.

Myers has written descriptions for each type, showing the excellence of the type at full development, and the specific problems resulting from inadequate type development. She has also written brief descriptions of the types in young people. These are reproduced in Figure 2. It is instructive for those unacquainted with the MBTI to compare descriptions which differ on all four letters, relating these to the four preferences.

Jung's theory implies differences in interests, abilities, and career choices. Examples of expectations suggested by the theory are:

1. Expectations Related to EI Preference

a. Extraverts will be sociable, active, at ease with the environment, and good at communicating. They will be particularly aware of, and responsive to, situational factors in making life decisions.

b. Introverts will be reserved, deliberate and thoughtful, with capacity for sustained attention and depth of understanding. They will tend to give less weight to situational factors in making life decisions.

2. Expectations Related to SN Preference

a. Sensing types will be observant, realistic and practical, with more interest in performing tasks than in their implications. They will enjoy practicing well-learned skills (as in direct patient care) and will prefer familiar situations that are not unduly complicated (and thus will live in smaller communities). They will learn more from experience than from books. They will be more likely to allow time in their careers for everyday pleasures of home and recreation.

b. Intuitive types will be ingenious with complexity and will enjoy finding patterns in complicated systems. They will constantly seek new challenges and will become bored by repetitive tasks. Their interest in symbols will give a gift for reading and an advantage on written tests. They will enjoy higher education, intellectual challenges, research, and any activities on the cutting edge of change. They will be attracted to metropolitan areas or university towns.

3. Expectations Related to TF Preference

a. Thinking types will be objective, analytical and toughminded. They will be good with equipment (especially ST's) and science (especially NT's). They will be attracted to patient-care activities where technical skill is more important than empathy and nurturance.

b. Feeling types will be nurturant, compassionate, and good at communicating (especially EF's). They will be attracted to careers where they can give care and understanding on a physical level (especially SF's) or a psychological level (especially NF's).

4. Expectations Related to the JP Preference

a. Judging types will be organized, systematic, dependable and decisive. As students they will often be considered "overachievers." They will enjoy careers and settings where work is performed with system and order. Many will be attracted to administration and management.

b. Perceptive types will be curious, open-minded and flexible. They will enjoy careers and settings requiring adaptability to changing conditions.

D. Major Findings in Medicine

Medicine is the only health profession with enough data to compare trends over time. Myers tested 5355 students from 45 schools in the 1950's. A sample of 6344 students and 1881 physicians have been tested in the 1960's and 1970's. The project compared (a) the two groups of students, (b) specialty changes from 1963 to 1973 in the Myers sample, and (c) the data on medical practice from Myers' sample and today's physicians.

Some users of MBTI data are most interested in the actual numbers of each type in a career. Others wish to know the numbers relative to some reference group. In this study, high school and college students were used as reference groups since these are the pool from which health manpower is drawn. If type made no difference in career selection, every career should have the same proportion of each type as was found in the reference group. Manpower planners will have little interest in the fact that certain types have a high interest in health careers, if there are few of these types in the general population; counselors advising one of these types will find this information very useful. Data throughout the report give both actual and relative numbers.

Actual and relative numbers give quite different information, because the 16 types are not distributed evenly in the general population. Extraverts outnumber introverts, and sensing types outnumber intuitive types. By chance alone, therefore, every career should have many more ES types and far fewer IN types. Myers' medical sample had 26% ES types, and 27% IN types, almost equal actual numbers. In relative terms, compared to high school students, the medical student sample had over twice the expected number of IN types (ratio 2.30***) and about half the expected number of ES types (.57***).

1. Changes in Medical Students Since the 1950's

The Myers' sample is one of the most evenly balanced of any career in MBTI literature (51% E, 53% N, 54% T and 53% P). Today's students are fairly evenly divided between 48% E and 52% I, but have shifted on the other three preferences. Intuitive types have increased from 53% to 61%, feeling types from 46% to 57% and judging types from 47% to 58%. Tables 2 and 3 show the type distributions of both samples.

These changes combine to cause increases in two important type groupings. Today's students have more of the humanistic NF types who are motivated by idealism and who are interested in psychosocial aspects of medicine (NF increase from 24% to 37%). Today's students also have significantly more of the innovative, persistent NJ types who typically combine high MCAT scores and good grades (from 21% to 29%). These types were more frequent in Myers' sample of minority groups (females 34% and blacks 44%) than in white males (20%). The overall increase in NJ types may reflect higher academic standards by schools and greater persistence needed by applicants in a competitive situation.

Inspection of the two tables shows a dramatic drop in the SP types (from 22% to 9%), which appears also in pre-medical students. The SP types are generally pragmatic, easy-going people whose actual performance may be much more impressive than their test credentials. There is some evidence that, if admitted to medical school, their National Board scores are above what would be predicted from MCAT and college grades. In any case, the drop in these types cannot be laid at the door of admissions committees, but probably occurs because SP students believe they are not competitive. The importance of this change lies in the fact that these types, in the Myers follow-up, were significantly more often found in direct patient care.

a. Comparison of Medical Students and College Students. What types in college are attracted to medicine? As can be seen in Table 2, all types are found in medical school. The ratios show, however, that introverts and intuitive types are significantly more attracted to medicine, as these types are to higher education in general. These relationships hold for Myers' data and today's students, both males and females. The proportion of feeling types has increased for males (45% to 55%) and for females (56% to 61%). Male medical students are similar to college students on TF, but females have significantly fewer feeling types than are found in college females, three-quarters of whom prefer feeling. There are significantly more judging types in medical school than in college, in both male and female samples.

b. Type Differences in the Decision to Become a Physician. Ohio State medical students are asked a number of questions about their decision to enter medicine. As theory predicts, extraverts reported more influence from family and friends. The decisive EJ types made earlier decisions and had fewer doubts about them; the thoughtful and curious IP types made later decisions and were less sure about them (a difference also found in New Mexico students). Asked about alternate choices if they had not succeeded in being admitted to medical school, the toughminded TJ types had considered law, the dedicated FJ's, the ministry and the pragmatic ES's, business.

2. Aptitude, Achievement and Clinical Performance

In type terms, academic aptitude requires the skills of intuition and introversion—dealing with symbols, concepts and ideas. Typically IN types average highest, and ES types lowest on aptitude measures in high school and college. Intuitive types averaged higher MCAT scores than sensing types in Myers' sample and in present-day medical students. Data from several present-day schools showed the intuitive's advantage was less on National Boards, and disappeared in measures of clinical performance. In a small part of her sample, Myers also found no correlation between intuition and internship ratings.

These preliminary findings require verification, but they have important implications. Sensing types, who tend to prefer direct patient care, may be denied admission because they average lower on the MCAT. However, if admitted, their performance is as high as that of intuitive types. Sensing types should have a better chance of being admitted in schools which require a minimum aptitude to insure the knowledge needed to learn medicine, but which evaluate all candidates meeting the minimum on other important factors.

3. Learning to Be a Physician

In theory, each type brings to training the skills of its preferred processes, and may need extra training in the skills of its less-preferred processes. Type differences affect motivations, aptitudes and attitudes toward the educational experience. Most of the data on these issues come from the longitudinal studies at New Mexico and Ohio State Universities.

a. Type Differences in Skills Brought to Medical School. When asked to describe their skills on entering medical school, the logical and ingenious NT's said they had high skills in logical thinking. Intuitive types described themselves as original (intuition is associated with creativity in many studies). Sensing types said they were slow readers. Introverts said they were below average in verbal expression. Judging types said they persevered and organized their work. When asked what skills they needed to develop, introverts wanted training in public speaking and in meeting people; extraverts wanted skills in reading and in writing papers. Sensing types wanted skills in reading and in note-taking. All these characteristics are in accord with type theory.

b. Type Differences in Learning Experiences. In three schools intuitive types significantly more often elected independent study. In New Mexico, extraverts wanted student participation and student-led discussions, while practical introverts preferred lectures where the faculty gave the facts. Practical extraverts were types giving highest ratings to AMSA Foundation experiential projects in preceptorships and health teams. Several schools of medicine and of other health professions are looking more closely into type differences in learning styles. Valuable insights should be forthcoming in the next several years.

c. Attitude Changes in Medical School. The New Mexico studies found type-related attitudes at the beginning of medical school, and characteristic differences in the ways attitudes changed during the medical school experience. For example, the humanistic ENFJ's entered medical school with high values for psychosocial factors in medicine; these dropped sharply in the first two years, and rose in the clinical years (though never so high as at the beginning). The science-minded INTP's entered with low interest in psychosocial aspects of medicine, and only began to become interested in the clinical years. If confirmed in other schools, these data suggest that types will differ in the times when they are ready to learn certain materials. It may also be that some research with negative findings masks opposite trends in different types.

4. Choice of Specialty

In theory, a good career decision for any type would call on the strengths and interests of the type, with fewer requirements for use of the less-developed and less-preferred functions.

a. Specialty Choice in the Myers Longitudinal Study. Medical students significantly more often chose specialties whose tasks, in theory, should call on the interests and skills of their types. In the years between 1963 and 1973, rankings of specialties remained stable, with greatest stability in SN rankings and least in EI rankings. An analysis of the 19% of physicians who changed primary specialty during the decade showed a significant trend toward choosing a more compatible specialty the second time.

Medical specialties attracted relatively more introverts and intuitives, while surgical specialties attracted relatively more extraverts and sensing types. There were, however, two groupings of surgeons. Sensing types who, in theory, should enjoy problems which require high technical skill but are comparatively straightforward, were more attracted to general surgery, orthopedic surgery, and obstetrics and gynecology. Intuitive types who, in theory, should prefer complex problems with subtle nuances, were attracted to neurological, plastic and thoracic surgery.

Extraverts were attracted to obstetrics and gynecology, orthopedic surgery and pediatrics. Introverts were attracted to anesthesiology, internal medicine, pathology, and psychiatry.

Table 3 shows the rankings of specialties in the 1973 follow-up of Myers' sample for the four combinations of perception and judgment, ST, SF, NF and NT. The table is informative in several ways.

(1) All groups are represented in each specialty. Even in psychiatry, which has significantly fewer than the expected number of sensing types, there are 52 ST psychiatrists and 39 SF psychiatrists in practice.

(2) Many specialties have too few physicians for stable results, despite the fact that the original sample was a large one.

(3) The rankings of the four columns are quite different, and are consistent with theoretical expectations. Specialties requiring highly technical skills are high on the ST list; specialties requiring psychological insight and concern with subtle relationships are high on the NF list; specialties requiring practical application of medical knowledge and concern for people are high on the SF list; and specialties requiring daily applications of scientific principles with objectivity are higher on the NT list.

b. Specialty Choice in Other Studies. Specialty studies require large samples, and there are no present-day samples large enough to add substantially to Myers' data. Data on medical student choices of New Mexico and Ohio State medical students show consistencies with Myers' data. The New Mexico study of practicing physicians by Quenk and Albert are the most clearcut so far. They also show the attraction of introverts with sensing to anesthesiology, of intuitives to psychiatry, public health and preventive medicine, and of sensing types to general practice and family medicine.

c. Issues in Studying Type Differences in Specialty Choice. While it can be seen that types choose specialties which, in theory, should be attractive to them, the appropriate studies have not yet been done which could show that those who have chosen careers compatible with their type are happier or more successful. Until those studies become available it is important to remember, if the data are to be used in counseling, that at this stage we only know that physicians are more likely to choose compatible specialties.

The next steps in understanding type differences in specialties can come from studies of students and physicians. Data already exist in at least 4 longitudinal studies on specialty changes during medical school. Large studies of single specialties, including reasons for decisions and career satisfaction, would be very productive. Such a sample of over 600 surgeons was collected in 1974 by Dr. Ralph Ingersoll, now of Baylor University. Analysis and reporting of findings have been held up, however, at the request of the College of Surgeons. A number of family practice residency programs have tested residents in the past 5 years, but as yet no mechanism exists to bring the data together for analysis.

5. Type Differences in Delivery of Medical Care

Two questions were asked about type differences in delivery of medical care. Are there type differences in delivery of direct patient care? Do different types of physicians actually perform tasks in ways that are characteristic of their types? The evidence on these issues is mainly found in the 1973 Follow-up of Myers' sample, and the study of Physician Work Settings reported by Quenk and Albert in 1975.

Patient care has many aspects. Often it involves a daily round of familiar activities where well-learned skills can be exercised. Sensing types were expected to enjoy these patient-care activities. Sometimes patient care requires complex diagnostic challenges or new breakthroughs. Intuitive types were expected in these patient care activities. Further, thinking types were expected to provide patient care where objectivity and toughness were required (as in surgery), and feeling types where nurturant care and compassion are prime requisites. The evidence for these expectations is not definitive, but it is consistent.

a. Student Attitudes Toward Direct Patient Care. The New Mexico studies found that on entry to medical school, sensing types were more likely to report interest in direct patient care, and plans to spend more hours in seeing patients. Among AMSA students, relatively more sensing types participated in—and rated highly—projects giving direct patient care experience.

b. Physician Reports of Type and Practice. In the 1973 follow-up of Myers' sample, 4210, or 85%, of the follow-up physicians stated they were engaged primarily in direct patient care. Of these, 51% were intuitive types and 49% sensing types. Relative to their numbers, a small but significantly greater proportion of sensing types were in direct patient care (ratio 1.04***). Among administrators, intuitive types were clearly in the majority (64%, ratio 1.20**), as they were in medical teaching (64%, ratio 1.22**) and medical research (77%, ratio 1.46**). In work settings, proportionately more intuitive types were, as the above facts suggest, in medical schools and hospital settings.

In the Physician Work Setting study, more sensing types were in traditional primary care, while intuitive types were more interested in teaching and research.

c. Patient-Care Specialties. Both the Myers data and the New Mexico studies showed sensing types more attracted to general practice, and family medicine. Internal medicine attracts more intuitive types. It is likely that future studies will show differences in the sensing and intuitive internists, with the latter more interested in diagnostic referrals. Specialties closely related to internal medicine often have a higher proportion of intuitives than internal medicine itself.

d. Size of Community. In the Myers sample there was a small but significant tendency for sensing types to be in less urban communities, and for intuitives to live in metropolitan areas. In the Work Setting study, sensing types were in smaller communities and had lived there for a longer period of time.

e. Medically Underserved Areas. Only 128, or 2.6% of Myers' physicians were in areas officially classified as medically underserved. All 16 types were represented, and no statistically significant differences were found. Two trends bear watching, however.

First, selection ratios for INFP (1.40) and ENFP (1.58*) showed more of these idealistic types than might be expected. The possibility that these types are attracted to work in poverty areas is supported by findings in the New Mexico studies. These types entered medical school with an early interest in working in poverty areas, and were less likely than other types to lose this interest during medical school. In the AMSA Foundation's National Health Service Corps Primary Care Preceptorship Project, 46% of the students attracted to the project were in the four NF types. In the AMSA Foundation participants in preceptorship projects, N, F and P were associated with preference for working for the National Health Service Corps, and F was associated with an interest in working in poverty areas.

A second trend worth watching is that in the Myers data, all four of the matter-of-fact ST types had more than the expected numbers in underserved areas. These types would, in theory, be motivated to practice in underserved areas, not for idealism, but because medicine in these settings can be practiced in straightforward ways, because these types are motivated to perform tasks which obviously need doing, and perhaps because these settings offer time for leisure.

There are practical implications to the possibility that quite different types are attracted to underserved areas for very different reasons. A study of physicians and other health professionals in these areas could show which types are more likely to be found in underserved areas and their reasons for serving there. Are there differences between idealistic types who stay for short times and those who remain? Are sensing types more likely to remain, and if they leave, what are the reasons?

It should be possible to learn the most important motivations for each type so that facts relevant to these motivations could be used in recruiting. It would also help to know the facts most likely to be needed but overlooked (especially by the idealistic types), so that these could be provided.

Knowledge of type differences would be valuable to planners in developing practice models that take into account important type differences. Medicine has more humanistically-oriented physicians than formerly. These NF types need a challenge, a vision of a better world, and a sense that someone appreciates their attempts to move mountains. Program planners who assign these types to settings where it is unlikely that appreciation will be forthcoming from the community could find ways to make sure it was provided by the program itself. A knowledge of type differences in length of stay in communities could improve placement so that the types most likely to leave when the challenge seemed over would be placed in sites where higher turnover would be tolerable.

Once the facts are established showing how different types choose and enjoy working in underserved areas, programs can be designed to take these facts into account. One of the most useful consequences of type research can be redefinition of problems in ways that increase the possibility of finding solutions.

f. Differences in the Manner of Practicing Medicine. Consistent with theoretical expectations, sensing types in the Physician Work Setting sample reported that they remained longer in the same locations, saw more patients each week, performed more habitual and nonvarying activities, personally managed the financial aspects of their practice, earned higher incomes, and allowed more time for personal interests and for their families.

Intuitive types reported interest in trying new things, and in teaching. They were more likely to be working at several different work settings in the same week (especially the ENF group), and to be affiliated with medical centers. They were also more concerned with finding ways for their spouses to pursue their own activities. In patient care activities, they reported greater concern with patients' emotional problems.

Extraverts reported spending more time with patients and more participation in non-medical community affairs. Consistent with the theoretical expectation that outside influences are more important to extraverts, they were more concerned about recognition from peers, and they made more use of referral facilities.

Thinking types reported more time spent on programmatic issues, such as developing treatment plans, organizational administration, and participation in case reviews. Their "community" activities were more likely to be related to the medical community and they reported more concern with advancement.

These early findings suggest that research focused concurrently on specialties and work settings should be highly productive in understanding the ways different types of physicians function in settings that may seem, on the surface, to be similar.

E. Major Findings in Other Fields of Health

The health sample in this project is 32,271 students and practitioners in health professions and fields related to health. They were tested from the middle 1960's through 1977, with the majority of cases tested in the mid-1970's. Some fields have samples large enough to be reasonably stable, while others will have samples which will surely prove to be unrepresentative. In no field are there data collected on a randomized representation of all practitioners or of all students. Obviously, data on fields with low representation in the sample should be interpreted with extreme caution.

1. Attractiveness of Fields of Health to MBTI Types

The full report gives the rankings for health fields of all 16 MBTI types and rankings for the four preferences, EI, SN, TF and JP. Table 4 shows rankings of health fields for ST, SF, NF and NT, the four combinations of perception and judgment. The table gives the actual numbers in each group, and the ratio which shows attractiveness compared to the CAPT data bank sample of 11,122 college freshmen (which includes first-year students in junior colleges, colleges and universities).

Every field has representatives from each of the four MBTI columns. The practical and matter-of-fact ST types are attracted to health fields which require high technical skill. The sympathetic and friendly SF types are in fields giving direct physical care. The enthusiastic and insightful NF types are attracted to fields requiring psychological understanding and skills in communication. The logical and ingenious NT types are in fields requiring continuous applications of scientific knowledge.

The table also shows that the practical ST and SF types are significantly underrepresented in fields requiring psychological insight and scientific knowledge, and the NF and NT types are underrepresented in fields where it is important to pay constant attention to the details of patient care.

Compared to college freshmen, relatively more extraverts were found in nursing, dietetic and nutritional services, occupational therapy, radiologic technology, speech pathology, and physician extender services. Extraverts and introverts were found in about equal numbers in medicine, pharmacy, and clinical laboratory services, but, in comparison to college freshmen, these fields had significantly more introverted types.

Health fields as a group attract significantly more judging types than would be expected from the numbers of these types in college freshmen. Fields particularly attractive to judging types are medicine, dentistry, pharmacy, nursing, optometry, clinical laboratory services, dietetics and nutritional services, and physician extender services. The perceptive types, who are more interested in understanding events than in controlling them, are found in psychological and counseling services, social work and speech pathology.

Educators training students in fields with large numbers of judging types should be alert to capitalize on the organization and dependability of these students, but should also teach them to avoid the typical problems of judging types—decisions made too quickly on insufficient data, failure to take time to listen and understand, or unwillingness to turn away from the task at hand to attend to new things that need to be done. Those training perceptive types might also spend time showing these students the values of an organized and responsible work style, particularly if they will be working closely with large numbers of judging types.

2. Levels of Training

The best data on type differences in educational levels come from nursing. As predicted, the proportion of intuitive types increases from 30% in licensed practical nurses to 58% for nurses in graduate programs. The same progression is found in practitioners with different levels of training. A TF difference also appears at levels of training. Thinking types are in the minority in nursing, but they are proportionately more frequent in students at higher educational levels (23% in LPN students, 36% in graduate students).

3. Satisfaction with Health Careers

The fact that certain types are attracted to a given health field does not necessarily mean that these types are more satisfied with their choices. Indirect evidence on this point comes from data on students, in an introductory course in the health related professions, who took both the MBTI and the Strong Vocational Interest Blank. The career norms for the SVIB are based on mature people in professions who said they liked their work. The distributions of students scoring high on the SVIB scale for health careers were very similar to the type distributions for students and practitioners actually in the same careers.

4. Sex Differences

In high school and college populations, feeling types outnumber thinking types in female groups in ratios of 2:1 to 3:1. The proportion of feeling types is more evenly divided in male samples. Since feeling types are attracted to careers of service, all health fields have many feeling types. However, there are proportionately more feeling types in those fields where females are in the majority. In comparing males and females in the same health field, the type distributions were similar in most cases, except for the somewhat larger numbers of feeling types among females. In several fields, however, male and female type distributions were quite distinct. Females in medicine have more of the determined and innovative NJ types. Males in nursing and physical therapy have more of the academic introverts with intuition. Males in clinical laboratory services and respiratory therapy had more of the tough-minded TJ types. Type differences may explain some differences now called sex differences. Future studies should take these into account.

5. Specialty Choices and Work Settings

A beginning has been made in studying specialty choices in health professions, but no other field has been studied so well as medicine.

In nursing, preliminary data on nursing specialties showed educators had more intuitive types, as would be expected. Administrators and consultants had relatively more academic IN types and logical and ingenious NT's; fewer of the sympathetic and friendly SF nurses were in these roles. Psychiatric nursing, like psychiatry and psychology, attracted more intuitive types. Nursing in hospital settings were more likely to be sensing types; relatively more nurses in schools and public health were intuitive types.

In one study of dieticians, Fellers found that satisfied clinical dieticians were more likely to prefer feeling and satisfied administrative dieticians were more likely to prefer thinking.

In studies of specialties and work settings of medical technologists, type differences have been found in microbiology, blood bank, chemistry and hematology, but these have not yet been verified.

Studies of pharmacy students at Illinois found all types attracted to retail pharmacies, with more perceptive males and feeling females in these settings. Hospital pharmacies attracted I, T and J males and T females; industry attracted the science-minded NT females.

Many investigators are studying career satisfaction, and choices of settings and specialties. These studies should add greatly to knowledge of type differences within and across careers in the next few years.

F. Theoretical Implications and Practical Uses

This project has brought together a substantial amount of information on psychological types in medicine and other health professions. In the main, type differences were in the directions expected from C. G. Jung's theory of psychological types. This finding is important, because a good theory can give valuable insight into the meanings of seemingly unrelated facts.

The findings support those MBTI users who are already finding Jung's ideas of practical use in alerting them to issues which should be raised in selection interviews, in suggesting ways to teach students more efficiently, in improving communications among team members, and in counseling students and practitioners at periods of career decisions. The facts of this report will increase the precision of use of the theory in each of these practical applications.

It is now established that all 16 types are found in each health field studied, but it is also established that for any given field, all types are not equally attracted, admitted, graduated from training, or found in practice. Health careers have characteristic type distributions; some fields appear to draw most members from a comparatively few types, while others, including medicine, have a more balanced type distribution. By definition, each of the 16 MBTI types finds certain aspects of life more interesting, and is more likely to have developed skills along the lines of these interests. Any career that calls on a rather restricted group of skills should, therefore, attract fewer types than careers (such as medicine) which include a diversity of activities.

Significant differences have been found within and across health fields in selection, aptitude and achievement, education of the professional, and choices of specialties and practice settings. The broad outlines of type differences are clear and understandable, and a foundation has been laid for the important next stage. We must now discover the many specific facts for each career, and for each type within each career, which will eventually provide the tools to improve selection, training and counseling of students, and will help both students and practitioners make wise career decisions.

1. Considerations and Limitations in Using MBTI Data

This section is written for non-psychologists who often find it hard to evaluate psychological instruments. The professional training of psychologists typically makes them very aware of the difficulties of measuring anything as complex as human personality, and they approach any new measure with interest and skepticism. The points below may seem obvious, but they are mentioned because in our experience they have been frequent sources of misunderstanding.

a. Personality Testing is Not an Exact Science. Measurement error and lack of precision are inevitable in all personality instruments.

b. Motivation of Test-Takers Influences Answers. Test results can be invalidated by deliberate faking, by random responses, by failure to understand questions, or by inability to report true preferences through lack of self-understanding. The fact that MBTI results can be reported to test-takers and are found useful is important, because validity is increased when people see a value for themselves in giving honest answers.

c. Psychological Type Does Not Explain All Behavior. New users of the MBTI sometimes feel they have found a panacea for all interpersonal problems. While the theory explains much that is important because it is concerned with conscious use of fundamental mental processes, the MBTI does not measure many factors needed for a complete description of personality—factors such as cultural environment or psychopathology, to give but two examples.

d. All Members of the Same Type are Not Alike. The theory describes which preferences are preferred, but not the contents on which they are exercised. For example, intuitive types are interested in possibilities, but one intuitive may see artistic possibilities, another may be more interested in possibilities for understanding personality, or for diagnosing illness, or for changing health care.

Another source of differences among members of the same type is level of type development, i.e., of command of perception and judgment. Good type development increases the likelihood that people have the assets of their type; poor type development makes it more likely that they are struggling with the blindspots of their type. The New Mexico studies found significant differences between students of the same type who were or were not anxious. In pilot work on type development, Myers found that students with less command of perception and judgment were more likely to drop out of medical school, to receive lower clinical performance grades in medical school, to receive lower internship ratings, and to have a higher mortality rate. A major next step in MBTI research is to follow these clues so as to identify and learn how to correct blocks on the road to excellence in type development.

e. It is Premature to Use the MBTI for Selection. MBTI responses are less likely to be valid under the competitive conditions of selection. Also, there are at present no data proving that any type will fail in any health career. Our hypothesis is that health care is so complex that all types can find their niche. The best strategy is to test students and practitioners, so as to learn from them specifically how type differences are important. Faculties who test students and observe type differences carefully will build clinical skill in identifying clues of good or poor type development in each type. This strategy should help improve selection, teaching and advisement.

2. Uses of Findings in Research

a. Asking Better Questions. It is now known that types differ in many behaviors of concern to educators and planners in health, and that Jung's theory can predict or explain type differences. By simply asking, "How might types differ?" researchers are alerted to important issues which might otherwise be overlooked.

b. Comparisons Across Programs or Across Time. The MBTI is a useful tool in identifying similarities and differences in types attracted to programs with different philosophies or missions, or to the same program monitored across time.

c. Sampling. The MBTI gives a new precision in sampling, especially in follow-up studies. For example, researchers might interview only a representative group of the frequent types, but all of the rare types.

d. Addition of Type Concepts to Ongoing Research. It is comparatively easy and inexpensive to add MBTI data to many ongoing studies. Such an addition creates a new level of analysis and explanatory power.

3. Recommended Research Projects

a. Studies of Specialties and High-Interest Populations. Because more precise data on type differences in satisfaction, manner of work, and clinical performance within specialties would give a powerful tool for advising entrants into careers, research in these areas should have high priority. The most immediate need is for more complete information about direct patient care in all health fields, and about those who provide it in underserved areas.

b. Studies of Individual Differences Within Types. More facts and clinical observations are needed to identify levels of excellence in each type, and to help all members of the type reach higher levels of type development. This is particularly important in the health professions, where clear perception and good judgment are necessary for optimum patient care.

c. Studies Cutting Across Health Professions. Type theory is a useful bridge across professions in and outside of health. It is important to know how type differences identified in one profession appear in the same types engaged in activities of other health fields.

d. Studies of Communication in Teams Across Disciplines. Data on faculty teams and practice teams need to be expanded, with the focus on how differences can be used constructively.

e. Studies of Type Differences in Existing Longitudinal Medical Studies. A rich and relatively untapped resource for understanding type differences lies in longitudinal studies of at least 20 medical schools. Without waiting for passage of time, these schools could rapidly answer questions about type differences in performance, career planning and attitude change. Pooled data could give needed large numbers of rare types. Follow-up studies of graduates from these schools would be enriched by the wealth of data from student days. Most schools contacted for this project indicated interest in working together as a consortium, if funds were available for the additional tasks and for pooling of certain data. Such a consortium could well establish the expertise and data base for addressing the complex issues of type differences in clinical performance and the actual delivery of health care.

4. Uses of Findings in Counseling

The data of this report can be helpful in alerting students and practitioners to the fact that they are typical or atypical in their fields, and in helping them think through their life goals in light of the demands of their careers. The MBTI is a relatively new psychological instrument, and many counselors have not yet been trained in its use. The four MBTI preferences can readily be grasped, and it is easy for users to miss the subtleties of both the instrument and the theory; thus they fail to gain full benefit from use of the MBTI. Training for counselors is increasing in universities and through workshops of the AMSA Foundation. In any setting, cooperation between counselors and researchers will give rapid progress through shared insights.

5. Uses of Findings in Manpower Planning

Professions can be grouped in terms of the types attracted to them. Some professions attract precise and orderly types; others attract psychologically-minded independent spirits, or toughminded and analytical people, or those most compassionate and nurturant. These differences cut across educational levels and have implications for career ladders, for redeployment when new fields are developed, and for communications between groups. Knowledge of the type characteristics of a field gives a powerful tool in establishing requirements for selection, in planning training, and in organizing work settings.

6. Uses of Type in Patient Care

In assembling data for this project, we found health professionals exploring type differences in patient care. Preliminary work with small samples has related type differences to exercise after myocardial infarction, ability to taste quinine, response to hallucinogenic drugs, emotional illness, and sensitivity to pain. Some suggested that Jung's theory is consistent with new work on hemispheric dominance; others believe it will be useful in studying patient compliance. In a few years type differences in patients may be as important as type differences in the professionals who give them care.

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REFERENCES

Fellers, R. B. Relationships between career satisfaction and personality type for employed dietitians. (Doctoral Dissertation, University of Florida, 1974). *Dissertation Abstracts International,* 1975, *36 (03),* 1465A-1466A. (University Microfilms No. 75-19, 331)

Jung, C. G. [*Psychological types*] (G. G. Baynes, trans. & R. F. C. Hull, Ed.). Princeton, N.J.: Princeton University Press, 1971. (Originally published 1921.)

Myers, I. B. *Manual: The Myers-Briggs Type Indicator.* Palo Alto, California: Consulting Psychologists Press, 1962, 1975.

Myers, I. B. *Introduction to type* (2nd ed.). Gainesville, Florida: Center for Applications of Psychological Type, 1976.

Otis, G. D. *Types of medical students.* Limited circulation monograph, research performed under Contract No. NIH 71-4066, USPHS, HEW, 1972. (NTIS No. PB 251 225/AS)

Quenk, N. L. & Albert, M. *A taxonomy of physician work settings* (Study Report #2, Contract No. 1-MI-24197). Albuquerque, New Mexico, Longitudinal Study, 1975.

Quenk, N. L. *Characteristics of physician work settings in relation to Myers-Briggs preferences.* Paper presented at First National Conference on the Myers-Briggs Type Indicator, Gainesville, Florida, October 1975.

Quenk, N. L. & Heffron, W. Types of family practice teachers and residents: A comparative study. *Journal of Family Practice*, 1975, *2*, 195-200.

Rezler, A. G., Mrtek, R. G. & Manasse Jr., H. R. Linking career choice to personality types: A preliminary analysis of pharmacy students. *American Journal of Pharmaceutical Education*, 1976, *40*, 121-125.

Williams, M. R. *The relationships among the personality types, job satisfactions, and job specialties of a selected group of medical technologists.* Unpublished doctoral dissertation, Florida State University, 1976.

Table 1

Sources and Distributions of Myers-Briggs Type Indicators in Health

FIELDS OF HEALTH	STUDENTS			PRACTITIONERS			GRAND TOTAL
	Data Bank	Other	Total	Data Bank	Other	Total	
Medicine	4047	2297	6344	1758	123	1881	8225
Dentistry and Allied Fields	842	344	1186	90	6	96	1282
Nursing and Allied Fields	6879	746	7625	2025	610	2635	10260
Optometry	91	-	91	25	-	25	116
Pharmacy and Allied Fields	2175	258	2433	277	2	279	2712
Veterinary Medicine and Allied Fields	121	-	121	21	-	21	142
Clinical Laboratory Services	422	283	705	1177	6	1183	1888
Dietetics and Nutrition	24	191	215	305	4	309	524
Occupational Therapy	376	308	684	155	2	157	841
Physical Therapy	533	558	1091	153	2	155	1246
Physician Extender Services	115	195	310	13	-	13	323
Psychological and Counseling Services	1102	145	1247	1036	170	1206	2453
Radiologic Technology	154	60	214	53	-	53	267
Respiratory Therapy	161	192	353	127	-	127	480
Social Work	140	-	140	169	-	169	309
Speech Pathology	151	64	215	122	-	122	337
Other Health Related Fields[a]	123	299	422	296	148	444	866
Cardiovascular Technology			(52)			-	(52)
Health Administration			(9)			(51)	(60)
Health Education			-			(182)	(182)
Health Related - General			(208)			(51)	(259)
Medical Assistant			(25)			(51)	(76)
Medical Communications			(48)			-	(48)
Medical Illustration			(27)			-	(27)
Medical Records			(53)			(45)	(98)
Outreach Workers			-			(46)	(46)
Totals	17,456	5,940	23,396	7,802	1,073	8,875	32,271
	Total Data Bank		25,258	Total Other Sources 7,013			

[a] Totals for Other Health Related Fields include all cases. Totals in ( ) are for those fields with 25 or more cases and are included as part of the totals for Other Health Related Fields.

Table 2
Comparison of Medical Students in Myers' Sample of the 1950's with Students of the 1960's and 1970's

MYERS LONGITUDINAL MEDICAL STUDY

MEDICAL STUDENTS TESTED IN THE 1950's

N = 5355

SENSING TYPES		INTUITIVE TYPES			
with THINKING	with FEELING	with FEELING	with THINKING		
ISTJ N = 321 % = 5.99 ▮▮▮▮▮▮	**ISFJ** N = 246 % = 4.59 ▮▮▮▮▮	**INFJ** N = 209 % = 3.90 ▮▮▮▮	**INTJ** N = 339 % = 6.33 ▮▮▮▮▮▮	JUDGING	INTROVERTS
ISTP N = 311 % = 5.81 ▮▮▮▮▮▮	**ISFP** N = 266 % = 4.97 ▮▮▮▮▮	**INFP** N = 389 % = 7.26 ▮▮▮▮▮▮▮	**INTP** N = 523 % = 9.77 ▮▮▮▮▮▮▮▮▮▮	PERCEPTIVE	
ESTP N = 278 % = 5.19 ▮▮▮▮▮	**ESFP** N = 300 % = 5.60 ▮▮▮▮▮▮	**ENFP** N = 429 % = 8.01 ▮▮▮▮▮▮▮▮	**ENTP** N = 362 % = 6.76 ▮▮▮▮▮▮▮	PERCEPTIVE	EXTRAVERTS
ESTJ N = 428 % = 7.99 ▮▮▮▮▮▮▮▮	**ESFJ** N = 360 % = 6.72 ▮▮▮▮▮▮▮	**ENFJ** N = 266 % = 4.97 ▮▮▮▮▮	**ENTJ** N = 328 % = 6.13 ▮▮▮▮▮▮	JUDGING	

	N	PERCENT
E	2751	51.37
I	2604	48.63
S	2510	46.87
N	2845	53.13
T	2890	53.97
F	2465	46.03
J	2497	46.63
P	2858	53.37
IJ	1115	20.82
IP	1489	27.81
EP	1369	25.56
EJ	1382	25.81
ST	1338	24.99
SF	1172	21.89
NF	1293	24.15
NT	1552	28.98
SJ	1355	25.30
SP	1155	21.57
NP	1703	31.80
NJ	1142	21.33
TJ	1416	26.44
TP	1474	27.53
FP	1384	25.84
FJ	1081	20.19
IN	1460	27.26
EN	1385	25.86
IS	1144	21.36
ES	1366	25.51

NOTES: ▮ = 1% of sample

Data include students from 45 medical school tested in the 1950's by Isabel Briggs Myers for the Myers Longitudinal Medical Study.

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CAPT 8-77

COMPOSITE OF

MEDICAL STUDENTS TESTED IN THE 1960's AND 1970's

N = 5982

SENSING TYPES		INTUITIVE TYPES			
with THINKING	with FEELING	with FEELING	with THINKING		
ISTJ N = 491 % = 8.21 ▮▮▮▮▮▮▮▮	**ISFJ** N = 448 % = 7.49 ▮▮▮▮▮▮▮	**INFJ** N = 441 % = 7.37 ▮▮▮▮▮▮▮	**INTJ** N = 409 % = 6.84 ▮▮▮▮▮▮▮	JUDGING	INTROVERTS
ISTP N = 141 % = 2.36 ▮▮	**ISFP** N = 177 % = 2.96 ▮▮▮	**INFP** N = 624 % = 10.43 ▮▮▮▮▮▮▮▮▮▮	**INTP** N = 380 % = 6.35 ▮▮▮▮▮▮	PERCEPTIVE	
ESTP N = 102 % = 1.71 ▮▮	**ESFP** N = 169 % = 2.83 ▮▮▮	**ENFP** N = 637 % = 10.65 ▮▮▮▮▮▮▮▮▮▮ ▮	**ENTP** N = 270 % = 4.51 ▮▮▮▮▮	PERCEPTIVE	EXTRAVERTS
ESTJ N = 405 % = 6.77 ▮▮▮▮▮▮▮	**ESFJ** N = 408 % = 6.82 ▮▮▮▮▮▮▮	**ENFJ** N = 494 % = 8.26 ▮▮▮▮▮▮▮▮	**ENTJ** N = 386 % = 6.45 ▮▮▮▮▮▮	JUDGING	

	N	PERCENT
E	2871	47.99
I	3111	52.01
S	2341	39.13
N	3641	60.87
T	2584	43.20
F	3398	56.80
J	3482	58.21
P	2500	41.79
IJ	1789	29.91
IP	1322	22.10
EP	1178	19.69
EJ	1693	28.30
ST	1139	19.04
SF	1202	20.09
NF	2196	36.71
NT	1445	24.16
SJ	1752	29.29
SP	589	9.85
NP	1911	31.95
NJ	1730	28.92
TJ	1691	28.27
TP	893	14.93
FP	1607	26.86
FJ	1791	29.94
IN	1854	30.99
EN	1787	29.87
IS	1257	21.01
ES	1084	18.12

NOTES: ▮ = 1% of sample

Data include medical students in the CAPT data bank plus distributions of students supplied from other medical schools.

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CAPT 8-77

Table 3
Attractiveness of Medical Specialties for Combinations of Perception and Judgment in 1973 Follow-up of Myers Longitudinal Medical Study

S T - SENSING PLUS THINKING *PRACTICAL AND MATTER-OF-FACT*			S F - SENSING PLUS FEELING *SYMPATHETIC AND FRIENDLY*			N F - INTUITION PLUS FEELING *ENTHUSIASTIC AND INSIGHTFUL*			N T - INTUITION PLUS THINKING *LOGICAL AND INGENIOUS*		
SPECIALTIES	N	RATIO	SPECIALTIES	N	RATIO	SPECIALTIES	N	RATIO	SPECIALTIES	N	RATIO
Aerospace Medicine	20	1.37	Allergy	17	1.46	Child Psychiatry	38	1.77***	Neurology	39	1.62***
Preventive Medicine	12	1.37	Anesthesiology	60	1.36**	Neurological Surgery	17	1.50	Pathology	92	1.54***
Obstetrics & Gynecology	156	1.35***	Ophthalmology	48	1.32*	Psychiatry	146	1.49***	Psychiatry	178	1.46***
Orthopedic Surgery	68	1.24*	Occupational Medicine	21	1.29	Public Health	33	1.44*	Pulmonary Diseases	26	1.45*
General Practice	260	1.23***	Family Practice	33	1.22	Preventive Medicine	11	1.33	Child Psychiatry	36	1.35*
Dermatology	25	1.23	General Practice	217	1.18**	Gastroenterology	20	1.32	Thoracic Surgery	35	1.21
Urology	35	1.20	Urology	30	1.18	Dermatology	25	1.31	Cardiovascular Diseases	77	1.20
General Surgery	165	1.18	Pediatrics	94	1.16	Plastic Surgery	16	1.26	Otolaryngology	27	1.18
Anesthesiology	58	1.15	Gastroenterology	16	1.14	Cardiovascular Diseases	56	1.08	Internal Medicine	313	1.16***
Radiology	61	1.05	Thoracic Surgery	24	1.10	Internal Medicine	234	1.08	Neurological Surgery	16	1.14
Otolaryngology	20	1.02	Plastic Surgery	13	1.09	Pediatrics	92	1.06	Radiology	76	1.12
Family Practice	31	1.00	Obstetrics & Gynecology	111	1.09	Family Practice	30	1.03	Allergy	17	1.09
Occupational Medicine	18	.97	Orthopedic Surgery	52	1.08	Thoracic Surgery	24	1.03	Plastic Surgery	17	1.07
Cardiovascular Diseases	53	.96	Otolaryngology	18	1.05	Aerospace Medicine	14	1.02	Aerospace Medicine	17	1.00
Public Health	23	.94	General Surgery	123	1.00	Neurology	19	.98	Anesthesiology	58	.98
Pediatrics	81	.88	Pulmonary Diseases	13	.97	Occupational Medicine	17	.97	Preventive Medicine	10	.97
Internal Medicine	195	.85**	Public Health	19	.89	Radiology	52	.95	Orthopedic Surgery	62	.97
Ophthalmology	35	.84	Internal Medicine	176	.87*	Obstetrics & Gynecology	103	.94	Gastroenterology	18	.96
Pathology	41	.80	Radiology	43	.84	Ophthalmology	37	.94	Ophthalmology	46	.95
Allergy	10	.75	Neurology	14	.78	Pathology	45	.93	Pediatrics	101	.94
Neurological Surgery	9	.75	Cardiovascular Diseases	33	.69*	General Surgery	122	.93	General Surgery	148	.90
Pulmonary Diseases	10	.65	Dermatology	11	.62	General Practice	171	.86*	Urology	30	.88
Thoracic Surgery	16	.64*	Pathology	26	.58**	Pulmonary Diseases	12	.83	Dermatology	20	.84
Gastroenterology	10	.62	Neurological Surgery	6	.57	Urology	21	.77	Occupational Medicine	18	.83
Plastic Surgery	8	.59	Aerospace Medicine	7	.55	Allergy	9	.72	Family Practice	29	.80
Psychiatry	52	.50***	Psychiatry	39	.43***	Orthopedic Surgery	37	.72*	General Practice	191	.78***
Neurology	10	.49**	Child Psychiatry	7	.35***	Otolaryngology	13	.71	Public Health	22	.77
Child Psychiatry	10	.44**	Preventive Medicine	2	.26*	Anesthesiology	25	.53***	Obstetrics & Gynecology	92	.68***
TOTAL: ALL SPECIALTIES	1243	1.00	TOTAL: ALL SPECIALTIES	1089	1.00	TOTAL: ALL SPECIALTIES	1169	1.00	TOTAL: ALL SPECIALTIES	1452	1.00

Notes: Ratio = % of grouping in specialty ÷ comparable % in total 4953 physicians with known specialties (or $\text{Frequency}_{obs} \div \text{Frequency}_{exp}$).

Ratios significantly more than 1.00 indicate specialties attractive to the MBTI grouping; ratios significantly less than 1.00 indicate specialties less attractive. Rankings for specialties with small numbers are less likely to remain stable.

* $p < .05$, ** $p < .01$ and *** $p < .001$. Variations in significance levels occur because larger differences are required for significance in smaller samples.

Table 4
Attractiveness of Health Fields for Combinations of Perception and Judgment in Comparison to MBTI Distributions of College Freshmen

S T - SENSING PLUS THINKING			S F - SENSING PLUS FEELING			N F - INTUITION PLUS FEELING			N T - INTUITION PLUS THINKING		
PRACTICAL AND MATTER-OF-FACT			*SYMPATHETIC AND FRIENDLY*			*ENTHUSIASTIC AND INSIGHTFUL*			*LOGICAL AND INGENIOUS*		
FIELDS OF HEALTH	N	RATIO	FIELDS OF HEALTH	N	RATIO	FIELDS OF HEALTH	N	RATIO	FIELDS OF HEALTH	N	RATIO
Physician Extender	100	1.55***	Dental Hygiene	43	1.57***	Clinical Psychology	101	2.08***	Cardiovascular Technol.	20	3.04***
Dentistry	333	1.52***	Medical Records Admin.	54	1.54***	Psychology	606	1.69***	Psychology	269	1.88***
Laboratory Technology	47	1.41**	Dental Assistant	49	1.46***	Rehabilitation Counsel.	76	1.62***	Medicine	1853	1.86***
Pharmacy	741	1.37***	Nursing: LPN	94	1.44***	Counseling	390	1.61***	Clinical Psychology	34	1.76***
Medical Technology	426	1.27***	Physical Therapy Ass't	46	1.39**	Social Work	156	1.59***	Dentistry	223	1.60***
Respiratory Therapy	108	1.13	Medical Assistant	33	1.19	Occupational Therapy	375	1.41***	Physician Extender	65	1.59***
Dietetics & Nutrition	117	1.12	Nursing: RN	3843	1.13***	Medical Communications	21	1.38	Pharmacy	530	1.54***
Nursing: LPN	40	1.09	Radiologic Technology	105	1.10	Health Administration	25	1.32	Respiratory Therapy	91	1.50***
Optometry	25	1.08	Health Education	69	1.06	Speech Pathology	140	1.31***	Health Administration	11	1.45
Cardiovascular Technol.	11	1.06	Dietetics & Nutrition	191	1.02	Veterinary Medicine	51	1.13	Health Education	33	1.43*
Radiologic Technology	56	1.05	Physical Therapy	454	1.02	Medicine	2787	1.12***	Optometry	21	1.43
Medicine	1639	1.04	Respiratory Therapy	172	1.00	Physical Therapy	437	1.11*	Veterinary Medicine	24	1.34
Health Administration	12	1.00	Medical Technology	589	.98	Medical Assistant	25	1.01	Medical Technology	264	1.24***
Physical Therapy	245	.98	Optometry	37	.89	Nursing: RN	2991	.99	Speech Pathology	51	1.20
Health Education	35	.96	Speech Pathology	102	.85*	Optometry	33	.90	Occupational Therapy	126	1.18
Veterinary Medicine	27	.95	Laboratory Technology	50	.84	Radiologic Technology	75	.89	Laboratory Technology	25	1.18
Nursing: RN	1702	.90***	Medical Communications	14	.82	Physical Therapy Ass't	26	.88	Dietetics & Nutrition	76	1.15
Counseling	122	.80**	Occupational Therapy	239	.80***	Dental Assistant	26	.87	Social Work	44	1.12
Medical Records Admin.	15	.77	Pharmacy	764	.79***	Laboratory Technology	45	.85	Medical Communications	6	.99
Dental Assistant	14	.74	Veterinary Medicine	40	.79	Dietetics & Nutrition	140	.84*	Counseling	94	.97
Medical Communications	7	.73	Dentistry	306	.78***	Pharmacy	677	.79***	Radiologic Technology	31	.92
Dental Hygiene	11	.71	Rehabilitation Counsel.	41	.78*	Health Education	45	.78*	Medical Assistant	9	.91
Medical Assistant	11	.71	Physician Extender	85	.74***	Dental Hygiene	19	.78	Nursing: RN	971	.81***
Social Work	43	.70**	Cardiovascular Technol.	12	.65	Medical Technology	399	.75***	Medical Records Admin.	10	.81
Speech Pathology	44	.65**	Social Work	66	.60***	Nursing: LPN	43	.74*	Rehabilitation Counsel.	15	.80
Physical Therapy Ass't	12	.65	Counseling	160	.59***	Respiratory Therapy	109	.72***	Physical Therapy Ass't	9	.76
Occupational Therapy	101	.60***	Medicine	1584	.56***	Physician Extender	73	.71***	Physical Therapy	110	.70***
Rehabilitation Counsel.	16	.54**	Health Administration	12	.56*	Dentistry	236	.68***	Dental Assistant	5	.42*
Psychology	120	.53***	Psychology	137	.34***	Medical Records Admin.	19	.61**	Dental Hygiene	4	.41
Clinical Psychology	8	.26***	Clinical Psychology	10	.18***	Cardiovascular Technol.	9	.55*	Nursing: LPN	6	.26***
ALL HEALTH FIELDS	6571	1.02	ALL HEALTH FIELDS	10008	.87***	ALL HEALTH FIELDS	10541	1.03	ALL HEALTH FIELDS	5151	1.26***
COLLEGE FRESHMEN	2224	1.00	COLLEGE FRESHMEN	3967	1.00	COLLEGE FRESHMEN	3523	1.00	COLLEGE FRESHMEN	1408	1.00

Notes: Ratio = % in MBTI grouping of health field ÷ comparable % in College Freshmen (or $\text{Frequency}_{obs} \div \text{Frequency}_{exp}$).

Ratios significantly greater than 1.00 indicate health fields more attractive to those in that type grouping. Ratios significantly less than 1.00 indicate fields less attractive. Rankings for fields with small samples are less likely to remain stable.

* *p* <.05, ** *p* <.01 and *** *p* <.001. Variations in levels of significance occur because ratios must be larger to be significant in smaller samples.

MYERS-BRIGGS TYPE INDICATOR

UNDERSTANDING THE TYPE TABLE

FOUR PREFERENCES ARE SCORED TO ARRIVE AT A PERSON'S TYPE

- - - - - DOES THE PERSON'S INTEREST FLOW MAINLY TO - - - - - - -

E	I
THE OUTER WORLD OF ACTIONS, OBJECTS AND PERSONS?	THE INNER WORLD OF CONCEPTS AND IDEAS?
EXTRAVERSION	INTROVERSION

- - - - - - - DOES THE PERSON PREFER TO PERCEIVE - - - - - - - -

S	N
THE IMMEDIATE, REAL, PRACTICAL FACTS OF EXPERIENCE AND LIFE?	THE POSSIBILITIES, RELATIONSHIPS AND MEANINGS OF EXPERIENCES?
SENSING	INTUITION

- - - DOES THE PERSON PREFER TO MAKE JUDGMENTS OR DECISIONS - - -

T	F
OBJECTIVELY, IMPERSONALLY, CONSIDERING CAUSES OF EVENTS & WHERE DECISIONS MAY LEAD?	SUBJECTIVELY AND PERSONALLY, WEIGHING VALUES OF CHOICES & HOW THEY MATTER TO OTHERS?
THINKING	FEELING

- - - - - - - DOES THE PERSON PREFER MOSTLY TO LIVE - - - - - - - -

J	P
IN A DECISIVE, PLANNED AND ORDERLY WAY, AIMING TO REGULATE & CONTROL EVENTS?	IN A SPONTANEOUS, FLEXIBLE WAY, AIMING TO UNDERSTAND LIFE AND ADAPT TO IT?
JUDGMENT	PERCEPTION

THE LOCATION OF THE 16 PREFERENCE TYPES ON THE TYPE TABLE

ISTJ	ISFJ	INFJ	INTJ
ISTP	ISFP	INFP	INTP
ESTP	ESFP	ENFP	ENTP
ESTJ	ESFJ	ENFJ	ENTJ

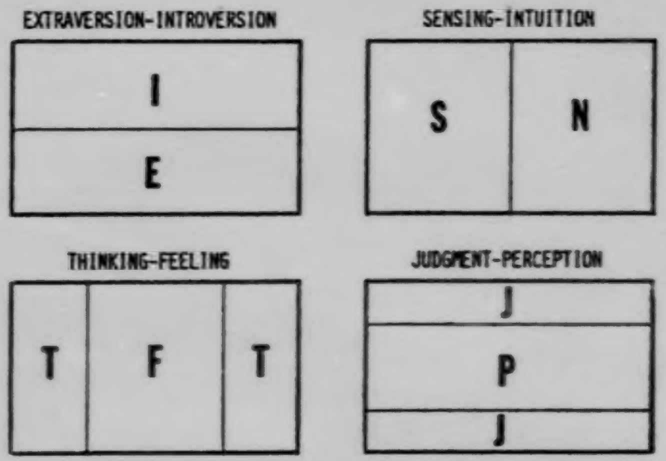

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Figure 1 Understanding the Type Table - Part I

THE THEORY: DOMINANT AND AUXILIARY FUNCTIONS FOR EACH TYPE

According to Jung's theory of psychological types, everyone uses all four *functions* (S, N, T, F), and adopts all four *attitudes* (E, I, J, P). The types are called *preference types* because people in each type *prefer* one of the two *perceptive functions* (S or N), and one of the two *judgment functions* (T or F). These preferences appear in the 2 middle letters of the type formula. Types also differ in the functions they prefer to use when in the introverted or extraverted attitudes.

The most preferred, or favorite, or *dominant function*, is extraverted in E types and introverted in I types. The second favorite or *auxiliary function* is introverted in E types and extraverted in I types. The type table below shows these relationships for each of the 16 MBTI types.

ISTJ **INTROVERTED SENSING with Thinking** Sensing is dominant and introverted Thinking is auxiliary and extraverted	ISFJ **INTROVERTED SENSING with Feeling** Sensing is dominant and introverted Feeling is auxiliary and extraverted	INFJ **INTROVERTED INTUITION with Feeling** Intuition is dominant and introverted Feeling is auxiliary and extraverted	INTJ **INTROVERTED INTUITION with Thinking** Intuition is dominant and introverted Thinking is auxiliary and extraverted
ISTP **INTROVERTED THINKING with Sensing** Thinking is dominant and introverted Sensing is auxiliary and extraverted	ISFP **INTROVERTED FEELING with Sensing** Feeling is dominant and introverted Sensing is auxiliary and extraverted	INFP **INTROVERTED FEELING with Intuition** Feeling is dominant and introverted Intuition is auxiliary and extraverted	INTP **INTROVERTED THINKING with Intuition** Thinking is dominant and introverted Intuition is auxiliary and extraverted
ESTP **EXTRAVERTED SENSING with Thinking** Sensing is dominant and extraverted Thinking is auxiliary and introverted	ESFP **EXTRAVERTED SENSING with Feeling** Sensing is dominant and extraverted Feeling is auxiliary and introverted	ENFP **EXTRAVERTED INTUITION with Feeling** Intuition is dominant and extraverted Feeling is auxiliary and introverted	ENTP **EXTRAVERTED INTUITION with Thinking** Intuition is dominant and extraverted Thinking is auxiliary and introverted
ESTJ **EXTRAVERTED THINKING with Sensing** Thinking is dominant and extraverted Sensing is auxiliary and introverted	ESFJ **EXTRAVERTED FEELING with Sensing** Feeling is dominant and extraverted Sensing is auxiliary and introverted	ENFJ **EXTRAVERTED FEELING with Intuition** Feeling is dominant and extraverted Intuition is auxiliary and introverted	ENTJ **EXTRAVERTED THINKING with Intuition** Thinking is dominant and extraverted Intuition is auxiliary and introverted

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Figure 1
Understanding the Type Table: Part II

THE 4 COLUMNS: COMBINATIONS OF PERCEPTION AND JUDGMENT

SENSING PLUS THINKING	SENSING PLUS FEELING	INTUITION PLUS FEELING	INTUITION PLUS THINKING
ST	**SF**	**NF**	**NT**
PRACTICAL AND MATTER-OF-FACT	SYMPATHETIC AND FRIENDLY	ENTHUSIASTIC AND INSIGHTFUL	LOGICAL AND INGENIOUS
Like using abilities in	Like using abilities in	Like using abilities in	Like using abilities in
TECHNICAL SKILLS WITH FACTS AND OBJECTS	PRACTICAL HELP AND SERVICES FOR PEOPLE	UNDERSTANDING & COMMUNICATING WITH PEOPLE	THEORETICAL AND TECHNICAL DEVELOPMENTS
for example in	for example in	for example in	for example in
Applied science Business Production Construction and many more	Patient care Community service Sales Teaching and many more	Behavioral science Research Literature & art Teaching and many more	Physical Science Research Management Forecasts & Analysis and many more

THE 4 QUADRANTS: COMBINATIONS OF ATTITUDE AND PERCEPTION

INTROVERSION AND SENSING **IS** KNOWLEDGE IS IMPORTANT TO ESTABLISH TRUTH "THOUGHTFUL REALISTS"	INTROVERSION AND INTUITION **IN** KNOWLEDGE IS IMPORTANT FOR ITS OWN SAKE "THOUGHTFUL INNOVATORS"
EXTRAVERSION AND SENSING **ES** KNOWLEDGE IS IMPORTANT FOR PRACTICAL USE "ACTION-ORIENTED REALISTS"	EXTRAVERSION AND INTUITION **EN** KNOWLEDGE IS IMPORTANT FOR CREATING CHANGE "ACTION-ORIENTED INNOVATORS"

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		SENSING TYPES		INTUITIVES			
		WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING		
INTROVERTS	JUDGING	**ISTJ** Serious, quiet, earn success by concentration and thoroughness. Practical, orderly, matter-of-fact, logical, realistic and dependable. See to it that everything is well organized. Take responsibility. Make up their own minds as to what should be accomplished and work toward it steadily, regardless of protests or distractions. Live their outer life more with thinking, inner more with sensing.	**ISFJ** Quiet, friendly, responsible and conscientious. Work devotedly to meet their obligations and serve their friends and school. Thorough, painstaking, accurate. May need time to master technical subjects, as their interests are not often technical. Patient with detail and routine. Loyal, considerate, concerned with how other people feel. Live their outer life more with feeling, inner more with sensing.	**INFJ** Succeed by perseverance, originality and desire to do whatever is needed or wanted. Put their best efforts into their work. Quietly forceful, conscientious, concerned for others. Respected for their firm principles. Likely to be honored and followed for their clear convictions as to how best to serve the common good. Live their outer life more with feeling, inner more with intuition.	**INTJ** Have original minds and great drive which they use only for their own purposes. In fields that appeal to them they have a fine power to organize a job and carry it through with or without help. Skeptical, critical, independent, determined, often stubborn. Must learn to yield less important points in order to win the most important. Live their outer life more with thinking, inner more with intuition.	JUDGING	INTROVERTS
	PERCEPTIVE	**ISTP** Cool onlookers, quiet, reserved, observing and analyzing life with detached curiosity and unexpected flashes of original humor. Usually interested in impersonal principles, cause and effect, or how and why mechanical things work. Exert themselves no more than they think necessary, because any waste of energy would be inefficient. Live their outer life more with sensing, inner more with thinking.	**ISFP** Retiring, quietly friendly, sensitive, modest about their abilities. Shun disagreements, do not force their opinions or values on others. Usually do not care to lead but are often loyal followers. May be rather relaxed about assignments or getting things done, because they enjoy the present moment and do not want to spoil it by undue haste or exertion. Live their outer life more with sensing, inner more with feeling.	**INFP** Full of enthusiasms and loyalties, but seldom talk of these until they know you well. Care about learning, ideas, language, and independent projects of their own. Apt to be on yearbook staff, perhaps as editor. Tend to undertake too much, then somehow get it done. Friendly, but often too absorbed in what they are doing to be sociable or notice much. Live their outer life more with intuition, inner more with feeling.	**INTP** Quiet, reserved, brilliant in exams, especially in theoretical or scientific subjects. Logical to the point of hair splitting. Interested mainly in ideas, with little liking for parties or small talk. Tend to have very sharply defined interests. Need to choose careers where some strong interest of theirs can be used and useful. Live their outer life more with intuition, inner more with thinking.	PERCEPTIVE	
EXTRAVERTS	PERCEPTIVE	**ESTP** Matter-of-fact, do not worry or hurry, enjoy whatever comes along. Tend to like mechanical things and sports, with friends on the side. May be a bit blunt or insensitive. Can do math or science when they see the need. Dislike long explanations. Are best with real things that can be worked, handled, taken apart or put back together. Live their outer life more with sensing, inner more with thinking	**ESFP** Outgoing, easygoing, accepting, friendly, fond of a good time. Like sports and making things. Know what's going on and join in eagerly. Find remembering facts easier than mastering theories. Are best in situations that need sound common sense and practical ability with people as well as with things. Live their outer life more with sensing, inner more with feeling.	**ENFP** Warmly enthusiastic, high-spirited, ingenious, imaginative. Able to do almost anything that interests them. Quick with a solution for any difficulty and ready to help anyone with a problem. Often rely on their ability to improvise instead of preparing in advance. Can always find compelling reasons for whatever they want. Live their outer life more with intuition, inner more with feeling.	**ENTP** Quick, ingenious, good at many things. Stimulating company, alert and outspoken, argue for fun on either side of a question. Resourceful in solving new and challenging problems, but may neglect routine assignments. Turn to one new interest after another. Can always find logical reasons for whatever they want. Live their outer life more with intuition, inner more with thinking.	PERCEPTIVE	EXTRAVERTS
	JUDGING	**ESTJ** Practical realists, matter-of-fact, with a natural head for business or mechanics. Not interested in subjects they see no use for, but can apply themselves when necessary. Like to organize and run activities. Tend to run things well, especially if they remember to consider other people's feelings and points of view when making their decisions. Live their outer life more with thinking, inner more with sensing	**ESFJ** Warm-hearted, talkative, popular, conscientious, born cooperators, active committee members. Always doing something nice for someone. Work best with plenty of encouragement and praise. Little interest in abstract thinking or technical subjects. Main interest is in things that directly and visibly affect people's lives. Live their outer life more with feeling, inner more with sensing.	**ENFJ** Responsive and responsible. Feel real concern for what others think and want, and try to handle things with due regard for other people's feelings. Can present a proposal or lead a group discussion with ease and tact. Sociable, popular, active in school affairs, but put time enough on their studies to do good work. Live their outer life more with feeling, inner more with intuition.	**ENTJ** Hearty, frank, able in studies, leaders in activities. Usually good in anything that requires reasoning and intelligent talk, such as public speaking. Are well-informed and keep adding to their fund of knowledge. May sometimes be more positive and confident than their experience in an area warrants. Live their outer life more with thinking, inner more with intuition.	JUDGING	

Figure 2

Effects of Combinations of All Four Preferences in Young People

Taken from Myers, I. B. *Introduction to Type, 2nd Ed.* Gainesville, Florida: Center for Applications of Psychological Type, 1976.

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REFERENCES

Beck, J. N. *Relationships between personality type and managerial style of leadership personnel in nursing.* Unpublished doctoral dissertation, University of Florida, 1976.

Bible, B. L. Physicians' views of medical practice in nonmetropolitan communities. *Public Health Reports*, 1970, *85*, 11-17.

Borkowski, L. O. *The personality type of speech pathologists and audiologists as revealed by the MBTI.* Unpublished master's thesis, University of Florida, 1974.

Bowling, C. E. (Linton). *The Jungian personality function type of pathologists and selected medical technologists in the state of Florida* (Doctoral dissertation, University of Florida, 1973). *Dissertation Abstracts International*, 1974, *34*, 6404A. (University Microfilms No. 74-95[illegible])

Braun, J. A. *The empathic ability of psychotherapists as related to therapist perceptual flexibility and professional experience, patient insight, and therapist-patient similarity* Doctoral dissertation, Fordham University, 1971). *Dissertation Abstracts International*, 1971, *32*, 2391B. (University Microfilms No. 71-26, 856)

Brown, P. U. (Kahler). *Career development and satisfaction of occupational therapists in Florida* (Doctoral dissertation, University of Florida, 1973). *Dissertation Abstracts International*, 1974, *34*, 6930A. (University Microfilms No. 74-10, 025)

Buhmeyer, K. J. & Johnson, A. H. *Physician extender (Medex) candidate profiles.* Unpublished manuscript, 1975. (Available from authors at Medical University of South Carolina, Charleston, S.C. 29401).

Caine, T. M. & Small, D. J. The effects of personality and training on attitudes to treatment: Preliminary investigations. *British Journal of Medical Psychology*, 1969, *42*, 277-282.

Cantwell, James R. (Ed.) *Profile of Medical Practice: 1975-76 Edition.* Chicago: American Medical Association, 1976.

Carlson, R. & Levy, N. Studies of Jungian typology: I. Memory, social perception, and social action. *Journal of Personality*, 1973, *41(4)*, 559-576.

Carlyn, M. An assessment of the Myers-Briggs Type Indicator. *Journal of Personality Assessment*, 1977, *41(5)*, 461-473.

Center for the Applications of Psychological Type. *Bibliography: The Myers-Briggs Type Indicator.* Gainesville, Florida, 1977.

Clitsome, T. *Job satisfaction and turnover of intensive care and general staff nurses.* Paper presented at the First National COnference on the Myers-Briggs Type Indicator, Gainesville, Florida, October 1975.

Conary, F. M. *An investigation of the variability of behavioral response of Jungian psychological types to select educational variables* (Doctoral dissertation, Auburn University, 1954). *Dissertation Abstracts*, 1965, *26*, 5222. (University Microfilms No. 65-13, 898)

Cooke, B. J. *A comparison of personality typologies of successful and unsuccessful associate degree nursing students and their relationship to successful practicing registered nurses' typologies and to the nursing faculty's ideal-successful student nurse profile.* Unpublished doctoral dissertation, Nova University, 1975.

Damico, S. & Dalsheimer, B. *The relationship of personality type to achievement on the Florida Twelfth Grade Statewide Placement Test* (Technical Report No. 1). Gainesville, Florida: University of Florida, College of Education, P. K. Yonge Laboratory School, May 1974.

Durfee, R. Personality characteristics and attitudes toward the disabled of students in the health professions. *Rehabilitation Counseling Bulletin*, 1971, *15(1)*, 35-44.

Fellers, R. B. *Relationships between career satisfaction and personality type for employed dietitians* (Doctoral dissertation, University of Florida, 1974). *Dissertation Abstracts International*, 1975, *36(03)*, 1456A-1466A. (University Microfilms No. 75-19, 331)

French, R. M. & Rezler, A. G. Personality and job satisfaction of medical technologists. *American Journal of Medical Technology*, 1976, *42(3)*, 92-103.

REFERENCES *(Continued)*

Graham, J. R. & Otis, G. D. *Year IV: Second Quarterly Report (HRA 1-MI-24197)*. Albuquerque, University of New Mexico, Longitudinal Study Project, December, 1973.

Grant, W. H. *Behavior of MBTI types* (Research Report). Auburn, Alabama: Auburn University, Student Counseling Service, 1965.

Griesen, J. V. *Independent study versus group administration in medical education* (Doctoral dissertation, Ohio State University, 1971). *Dissertation Abstracts International*, 1972, *32*, 6100A. (University Microfilms No. 72-15, 214)

Heist, P. & Yonge, G. *Manual: Omnibus Personality Inventory: Form F*. New York: Psychological Corporation, 1968.

Hill, J. K. *A comparison of Myers-Briggs types among black and white technical clinical laboratory personnel* (Doctoral dissertation, University of Florida, 1974). *Dissertation Abstracts International*, 1975, *35*, 4910A. (University Microfilms No. 75-3498)

Hilliard, T. *Rehabilitation counselor personal characteristics type relationship to counselor performance rating* (Doctoral dissertation, University of Florida, 1972). *Dissertation Abstracts International*, 1973, *34*, 2933B. (University Microfilms No. 73-29, 180)

Holland, J. L. *Manual: The Holland Vocational Preference Inventory*. Palo Alto, California: Consulting Psychologists Press, 1970.

Hurst, S. *Psychological types of students and instructors: The effect of similarity on their evaluation of each other, in selected health related programs*. Unpublished doctoral dissertation, University of Florida, 1976.

Johnson, T. M. *The new curer: Anthropological perspectives in the training of physician's assistants* (Doctoral dissertation, University of Florida, 1975). *Dissertation Abstracts International*, 1976, *36(09)*, 6177A. (University Microfilms No. 76-4244)

Jung, C. G. [*Psychological types*] (G. G. Baynes, trans. & R. F. C. Hull, Ed.). Princeton, N.J.: Princeton University Press, 1971. (Originally published, 1921.)

Lawrence, G. & DeNovellis, R. *Correlations of teacher personality variables (Myers-Briggs) and classroom observation data*. Paper presented at the meeting of the American Educational Research Association, Chicago, April, 1974.

Lester, D. The Myers-Briggs Type Indicator as a predictor of counselor effectiveness. *Crisis Intervention*, 1971, *3(2)*, 44-46.

Levy, N., Murphy Jr., C. & Carlson, R. Personality types among negro college students. *Educational and Psychological Measurement*, 1972, *32*, 641-653.

Lewis, C. S. Screwtape proposes a toast. In *The Screwtape letters* New York: Macmillan, 1964.

May, D. C. *An investigation of the relationship between selected personality characteristics of eighth-grade students and their achievement in mathematics* (Doctoral dissertation, University of Florida, 1971.) (University Microfilms No. 72-21, 080)

McCaulley, M. H. *Myers-Briggs Type Indicator applications (Report of Committee 13)*. Gainesville, Florida: University of Florida, Department of Clinical Psychology, 1973.

McCaulley, M. H. How individual differences affect health care teams. *Health Team News*, 1975, *1(8)*, 1-4.

McCaulley, M. H. Personality variables: Modal profiles that characterize various fields of science. In M. B. Rowe (Chair), *Birth of new ways to raise a scientifically literate society: Research that may help*. Symposium presented at the annual meeting of the American Association for the Advancement of Science, Boston, February, 1976. (a)

McCaulley, M. H. Psychological types in engineering: Implications for teaching. *Engineering Education*, 1976, *66(7)*, 729-736. (b)

McCaulley, M. H. *The Myers Longitudinal Medical Study* (HRA Contract 231-76-0051 Monograph II). Gainesville, Florida: Center for Applications of Psychological Type, 1977.

REFERENCES *(Continued)*

McCaulley, M. H. & Natter, F. L. Psychological (Myers-Briggs) type differences in education. in F. L. Natter and S. A. Rollins (Eds.), *Phase II Report: The Governor's Task Force on Disruptive Youth*. Tallahassee, Florida: Office of the Governor, 1974.

Murray, H. A. & Kluckhohn, C. Outline of a conception of personality. In C. Kluckhohn, H. A. Murray & D. Schneider (Eds.), *Personality in nature, society and culture* (2nd ed.). New York: Knopf, 1953 (pp 3-52).

Morgan, M. K. & McCaulley, M. H. Selecting and teaching SP/VN's. *The Journal of Practical Nursing*, 1975, *25(11)*, 22-25.

Muthard, J. E. & Miller, L. A. The rehabiliation counselor rating scale. *Studies in Rehabilitation Counselor Training*, 1968, *6*. Minneapolis: University of Minnesota, Joint Liaison Committee of the Council of State Directors of Vocational Rehabilitation and the Rehabilitation Counselor Educators.

Myers, I. B. *Manual: The Myers-Briggs Type Indicator*. Palo Alto, California: Consulting Psychologists Press, 1962, 1975.

Myers, I. B. *Relation of psychological type to dropout in nursing*. Unpublished manuscript, 1967. (Available from Center for Applications of Psychological Type, 1441 N.W. 6th Street, Suite B-400, Gainesville, Florida 32601).

Myers, I. B. *Relevance of type to medical education*. Paper presented at invitational meeting held in conjunction with the annual meeting of the Association of American Medical Colleges, Miami Beach, Florida, 1972.

Myers, I. B. *Introduction to type* (2nd ed.). Gainesville, Florida: Center for Applications of Psychological Type, 1441 N.W. 6th Street, Suite B-400, Gainesville, Florida 32601.

Myers, I. B. & Davis, J. A. *Relation of medical students' psychological type to their specialties twelve years later*. Paper presented at the meeting of the American Psychological Association, Los Angeles, September 1964. [Reprinted in McCaulley, M. H. *The Myers Longitudinal Medical Study* (HRA Contract No. 231-76-0051, Monograph II). Also available separately from Center for Applications of Psychological Type, 1441 N.W. 6th Street, Suite B-400, Gainesville, Florida 32601.]

Natter, F. L. & Rifkind, L. J. *Patterns of personality preference among students, teachers, and practitioners in speech pathology and audiology* (Research Report for State of Florida Department of Education). Tallahassee, Florida: The Florida State University, Department of Communications, June, 1975.

Newman, L. E. *Counselor characteristics and training as related to the process of empathy and its manifestations*. Unpublished doctoral dissertation, University of Florida, 1975.

Nord, W. D. Job satisfaction reconsidered. *American Psychologist*, 1977, *32(12)*, 1026-1035.

Ohsawa, T. *MBTI experiences in Japan: Career choice, selection, placement and counseling for individual development*. Paper presented at First National Conference on the Myers-Briggs Type Indicator, Gainesville, Florida, October 1975.

Otis, G. D. *Types of medical students* (Limited circulation monograph prepared under Contract NIH 71-4066, USPHS, May 1972) Albuquerque, New Mexico: University of New Mexico School of Medicine, Longitudinal Study Project, 1972.

Otis, G. D. & Weiss, J R. Patterns of medical career preference. *Journal of Medical Education*, 1973, *48*, 1116-1123.

Otis, G. D., Albert, M., Quenk, N., Offir, J., Weiss, J., & Richardson, C. *Medical specialty selection: A review and bibliography*. U. S. DHEW Publication No. (HRA) 75-8, Health Manpower References, May 1974.

Perry, H. W. *Interrelationships among selected personality variables of psychologists and their professional orientation* (Doctoral dissertation, Notre Dame University, 1974). *Dissertation Abstracts International*, 1975, *35*, 6080B. (University Microfilms No. 75-13, 100)

REFERENCES *(Continued)*

Quenk, N. L. *Sources of physician satisfaction* (Report to Bureau of Health Manpower, HRA Contract No. 1-MI-24197). Albuquerque, New Mexico: University of New Mexico School of Medicine, Longitudinal Study Project, 1975. (a)

Quenk, N. L. *Characteristics of physician work settings in relation to Myers-Briggs preferences.* Paper presented at First National Conference on the Myers-Briggs Type Indicator, Gainesville, Florida, October 1975. (b)

Quenk, N. L. *A retrospective study of past participants in the AMSA Foundation programs* (Report to Bureau of Health Manpower, Contract No. 231-75-0606). Schaumburg, Illinois: American Medical Student Association Foundation, 1976. (a)

Quenk, N. L. *An evaluation of the AMSA Foundation - National Health Service Corps Primary Care Preceptorship Project* (Interim Report, Bureau of Health Manpower, Contract No. 231-75-0606). Schaumburg, Illinois: American Medical Student Association Foundation, 1976. (b)

Quenk, N. L. *Report of MBTI findings based on New Mexico studies.* Unpublished manuscript, prepared for use in final report of HRA Contract No 231-76-0051. (Findings are reported in Monograph I of FInal Report of this contract.)

Quenk, N. L. & Albert, M. *A taxonomy of physician work settings* (Study Report #2 to Bureau of Health Resources Development, HRA Contract No. 1-MI-24197). Albuquerque, New Mexico: University of New Mexico School of Medicine, Longitudinal Study Project, 1975.

Quenk, N. L. & Heffron, W. A. Types of family practice teachers and residents: A comparative study. *The Journal of Family Practice*, 1975, *2(3)*, 195-200.

Reddin, W. J. *Managerial effectiveness.* New York: McGraw Hill, 1970.

Reddin, W. J. *Management style diagnosis test: Second edition.* Fredericton, N. B., Canada: Organizational Tests Ltd., Box 324, 1972.

Rezler, A. G. MBTI scores of entering freshmen. In M. H. McCaulley (Chair), *The Myers-Briggs Type Indicator in medical education and practice.* Symposium presented at the Comference on Research in Medical Education at the annual meeting of the Association of American Medical Colleges, Chicago, November 1974.

Rezler, A. G. & Buckley, J. M. A comparison of personality types among female student health professionals. *Journal of Medical Education*, 1975, *52(6)*, 475-477.

Rezler, A. G. & French, R. M. Personality tests and learning preferences of students in six allied health professions. *Journal of Allied Health*, 1975, *4(1)*, 20-26.

Rezler, A. G., Mrtek, R. G. & Gutmann, C. M. Personality correlates of persistent high and low achievers. *American Journal of Pharmaceutical Education*, 1975, *40*, 236-238.

Rezler, A. G., Mrtek, R. G. & Manasse Jr., H. R. Linking career choice to personality types: A preliminary analysis of pharmacy students. *American Journal of Pharmaceutical Education*, 1976, *40*, 121-125.

Ross, J. *Progress Report on the College Students Characteristics Study* (ETS RM 61-11). Princeton, N.J.: Educational Testing Service, 1961.

Shannon, N. F., Dohner, C. W., Cutler, R. E., Evans, F. E., & Thomas, C. P. The University of Washington experience in using the Ohio State University Independent Study Curriculum. In R. L. Folk, J. V. Griesen & R. L. Beran (Eds.), *Individualizing the study of medicine.* New York: Westinghouse Learning Corporation, 1976.

Smith, P. C., Kendall, L. M. & Hulin, C. L. *The measurement of satisfaction in work and retirement.* Chicago: Rand McNally & Co., 1969.

Stricker, L. J. & Ross, J. Intercorrelations and reliability of the Myers-Briggs Type Indicator scales. *Psychological Reports*, 1963, *12*, 287-293.

Stricker, L. J. & Ross, J. Some correlates of a Jungian personality inventory. *Psychological Reports*, 1964, *14*, 623-643.

REFERENCES *(Concluded)*

Stricker, L. J., Schiffman, H. & Ross, J. Prediction of college performance with the Myers-Briggs Type Indicator. *Educational and Psychological Measurement*, 1965, *24(4)*, 1081-1095.

Strong, E. K. & Campbell, D. P. *SVIB (Strong Vocational Interest Blanks) Manual: 1966 Revision.* Stanford, California: Stanford University Press, 1966.

Tryon, R. C. & Bailey, D. E. *Cluster analysis*. New York: McGraw Hill, 1970.

Turner, E. V., Helper, M. M. & Kriska, S. D. Predictors of clinical performance. *Journal of Medical Education*, 1974, *49*, 338-342.

vonFranz, M-L. The inferior function. In M-L vonFranz & J. Hillman. *Lectures on Jung's typology*. New York: Spring Publications, 1971.

Williams, D. D. *An analysis of nursing state board scores according to Myers-Briggs personality types.* Unpublished doctoral dissertation, University of Florida, 1975.

Williams, M. R. The relationship between MBTI and job satisfaction: A preliminary report. *American Journal of Medical Technology*, 1975, *41(2)*, 56-60.

Williams, M. R. *The relationships among personality types, job satisfactions, and job specialties of a selected group of medical technologists.* Unpublished doctoral dissertation, The Florida State University, 1976.

Worthen, D. M. *A study of medical student learning preferences.* Unpublished masters thesis, University of Florida, 1975.

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DESCRIPTION OF APPENDICES

Appendix A gives the major sources of data for this Report. Appendix B gives the computer tables (SRTT) for the base populations to which health fields were compared. These include students at different educational levels and composites from health. Appendices C through S give key tables for each health field from among the much larger number prepared and used in the project. (See pages 40-48 for explanation and use of SRTT's.)

Several thousand Selection Ratio Type Tables were run in the course of this project. For each health profession students were compared to high school students and college freshmen, and sometimes to all college students or to a composite of college and graduate students. Males and females were compared to each other, and to high school students of their own sex. In each field, practitioners were compared to students, to each other, and to high school students and college freshmen. A series of tables were run for subpopulations found in each field, such as students or practitioners at different educational levels, or in specialties, or in work settings. All these tables provided the data abstracted in the summary tables of this report.

In Appendices C through S, the tables included depend on the extent of data available for each field. Subject to minor modifications, the rationale for selecting tables and their order of presentation is as follows:

1. All Students and Practitioners, compared to the composite of all health fields in the report (N = 32,271).
2. All Students, compared to the CAPT data bank sample of high school students (N = 6,738). These tables show types selected for training compared to our estimate of the manpower pool from which they come.
3. Student Sex Differences. The number of students for whom sex is known is compared to all students, to determine how representative this subgroup is of all students. Then males are compared to high school males, and females to high school females.
4. Other Student Tables include students at different educational levels or in different types of programs.
5. All Practitioners are compared to the total of students and practitioners in the field (#1). This comparison identifies types with more or fewer practitioners than expected, considering the numbers trained as students.
6. Practitioner Sex Differences. The number of practitioners for whom sex is known is compared to all practitioners, to determine how representative this subgroup is of all practitioners. Then males and females are compared to the "sex known" distribution, to identify sex differences in the profession.
7. Other Practitioner Tables list educational levels, specialties, and work settings, depending on data available.
8. Allied Fields of a profession follow data on the professionals.

Appendix A

Major Data Sources

Table A-1 Contributors of Substantial Populations

Table A-2 Myers Longitudinal Medical Study: Participating Schools

Table A-3 Myers Longitudinal Nursing Study: Participating Schools

Table A-4 Longitudinal Studies in Medicine

Table A-1
Contributors of Substantial Populations

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Table A-2
Myers Longitudinal Medical Study: List of Participating Schools

MEDICAL SCHOOLS	CLASSES	STUDENTS
Albany Medical College of Union University	1955	57
Boston University School of Medicine	1955	70
Bowman Gray School of Medicine of Wake Forest University	1955	56
Cornell University Medical College	1953-54	155
Creighton University School of Medicine	1955	76
Dartmouth Medical School	1955	24
Duke University School of Medicine	1955	75
Emory University School of Medicine	1955	66
George Washington University School of Medicine and Health Sciences	1951-57	624
Hahnemann Medical College and Hospital of Philadelphia	1955	104
Howard University College of Medicine	1955,59-62	407
Jefferson Medical College of Thomas Jefferson University	1955	166
Loma Linda University School of Medicine	1955	96
Loyola University of Chicago Stritch School of Medicine	1955	91
Medical College of Georgia School of Medicine	1955	78
Medical College of Pennsylvania	1953	52
Medical College of Virginia of Virginia Commonwealth University School of Medicine	1955	81
Medical College of Wisconsin	1955	100
Meharry Medical College School of Medicine	1955	64
New York Medical College	1952,55	156
New York University School of Medicine	1954-55	169
Northwestern University Medical School	1955	126
Ohio State University College of Medicine	1954-55	281
Saint Louis University School of Medicine	1955	122
State University of New York at Buffalo School of Medicine	1954-55	142
State University of New York Downstate Medical Center College of Medicine	1955	131
State University of New York Upstate Medical Center College of Medicine	1955	74
Tulane University School of Medicine	1955-57	372
University of Alabama School of Medicine	1955	80
University of California, Los Angeles, School of Medicine	1955	27
University of California, San Francisco, School of Medicine	1955	69
University of Colorado School of Medicine	1955	79
University of Illinois College of Medicine	1952,55	170
University of Kansas School of Medicine	1955	116
University of Nebraska College of Medicine	1955	85
University of Oklahoma College of Medicine	1955	92
University of Oregon School of Medicine	1955	82
University of Pennsylvania School of Medicine	1954	120
University of Rochester School of Medicine and Dentistry	1955	71
University of Tennessee College of Medicine	1955	49
University of Utah College of Medicine	1955	51
University of Vermont College of Medicine	1955	50
University of Virginia School of Medicine	1955	70
Vanderbilt University School of Medicine	1955	50
Washington University School of Medicine	1955	79

Table A 3
Participating Diploma Schools in Myers Longitudinal Nursing Study

School	First Year	Second Year	Third Year	Faculty
Albert Einstein	95	57	42	25
Augustana	29	24	0	10
Baptist Memorial	87	49	50	17
Barnes	112	62	54	21
Bethany	29	27	29	11
California, Los Angeles	35	29	24	13
Charity	139	100	71	1
Charlotte Memorial	85	61	47	21
Chicago Wesley Memorial	79	63	81	0
Clarkson Memorial	48	41	14	8
Columbus	33	21	16	4
Deaconess, St. Louis	79	0	43	0
Deaconess, Spokane	59	41	37	12
De Paul	56	39	52	16
Gilfoy (Mississippi Baptist)	48	46	34	5
Good Samaritan	46	53	51	3
Grant	44	27	6	5
Hahnemann	74	47	21	13
Hollywood Presbyterian	36	28	17	9
Holy Cross	35	33	0	14
Holy Name	88	62	64	0
Hotel Lieu	60	41	36	12
Illinois Masonic	50	39	37	23
Immanuel Deaconess	48	39	37	17
Iowa Methodist	86	0	0	0
Jeanne Mance	57	31	34	6
Jefferson	131	78	78	20
Johns Hopkins	122	88	88	33
Kansas City General	19	22	12	0
Lankenau	66	61	62	26
Lenox Hill	81	48	46	1
Los Angeles County General	153	108	86	24
Lutheran	90	74	66	0
Madison Gene[illegible]	58	27	29	10
Mary Hitchcock Memorial	56	33	22	13
Mercy of Detroit	99	78	70	28
Mercy of Portland, Maine	50	0	41	0
Michael Reese	72	0	0	0
Missouri Baptist	57	25	23	0
Nebraska Methodist	69	49	43	14
Parkview Methodist	62	0	53	0
Passavant	38	36	27	6
Philadelphia General	100	58	59	14
Presbyterian	69	55	52	18
Queen of Angels	0	42	22	12
Regina	35	9	22	3
Research	24	16	13	9
Rhode Island	109	93	103	31
Roanoke	52	28	34	0
St. Alphonsus	26	21	18	11
St. Anthony's	51	42	20	19
St. Catherine's	52	29	41	2
St. Francis	31	16	27	3
St. Louis City	51	49	35	15
St. Luke's, Cleveland	88	66	62	0
St. Luke's, Denver	62	35	14	2
St. Luke's, Kansas City	62	67	62	5
St. Luke's, St. Louis	80	58	55	12
St. Mary's, Kansas City	31	24	33	6
St. Mary's, Rochester	121	111	104	0
St. Patrick	30	28	27	7
St. Vincent's, Jacksonville	45	37	38	3
St. Vincent's, Los Angeles	61	39	26	1
Sioux Valley	48	34	33	12
Sisters of Charity	43	35	36	5
South Chicago Community	47	31	32	7
Swedish Covenant	42	30	42	0
Trinity Lutheran	25	24	26	6
University Hospital, Birmingham	61	52	48	3
University of Pennsylvania Hospital	144	0	0	23
Washington Hospital Center	111	0	67	0
Total	4,561	2,916	2,794	670

Table A-4
Longitudinal Studies in Medicine and Other Medical Samples

LOCATION AND DESCRIPTION	FOR FURTHER INFORMATION
STUDIES WITH LARGE NUMBERS OF MEDICAL STUDENTS WHO HAVE NOW GRADUATED	
Myers Longitudinal Medical Study *Medical students from 45 schools tested in 1950's by I. B. Myers*	Center for Applications of Psychological Type 1441 N. W. 6th Street, Suite B-400 Gainesville, Florida 32601
AMSA Foundation *Medical and other health students in experiential training projects*	Paul R. Wright or Sandra W. Smith American Medical Student Association Foundation 1171 Tower Road, Schaumburg, Illinois 60195
University of New Mexico *New Mexico Medical School Students and some applicants 1969-1976*	Gerald D. Otis, Ph.D., 4605 Compound Court, N.W. Albuquerque, New Mexico 87107, or Naomi L. Quenk, Ph.D., 1824 Lafayette, N.E., Albuquerque, New Mexico 87106 *(Research reports available from AMSA Foundation)*
Ohio State University *Medical Students 1967 to present*	C. Benjamin Meleca, Ph.D., or Larry Sachs Division of Research and Evaluation College of Medicine, Ohio State University Columbus, Ohio 43210
University of Washington *Medical Students 1964 to present*	Charles W. Dohner, Ph.D. Office of Research in Medical Education University of Washington School of Medicine Seattle, Washington 98105
STUDIES WITH STUDENTS NEAR GRADUATION OR RECENTLY GRADUATED	
University of Alabama *Medical Students and some applicants Beginning in 1974*	Jack D. Hain, Ph.D., Educational Measurement & Research University of Alabama School of Medicine Box 438, University Sta., Birmingham, Alabama 35294
University of Dayton *Pre-Medical & Pre-Dental Students*	Charles J. Chantell, Ph.D., Department of Biology University of Dayton, Dayton, Ohio 45649
University of Florida *Applicants & Students for two entering classes 1972-73*	Mary H. McCaulley, Ph.D., Clinical Psychology College of Health Related Professions, Box J-165 JHMHC University of Florida, Gainesville, Florida 32610
Florida State University and Florida A & M University *Pre-Medical Students 1972 to present*	Paul R. Elliott, Ph.D., Program in Medical Sciences 36 Montgomery Gym, Florida State University Tallahassee, Florida 32306
Medical College of Georgia *Medical Students*	Lloyd A. Lewis, Ph.D. Educational Research and Development Medical College of Georgia, Augusta, Georgia 30902
Hannemann Medical College *Medical Students 1973 to present*	Harold C. Bettencourt, Ph.D. (earlier Gail Lasdon) Hahnemann Medical College and Hospital Philadelphia, Pennsylvania 19102
University of Illinois *Medical Students entering 1974* *Independent Scholars 1972*	Howard M. Bers, Ed.D., Student Affairs, or Agnes G. Rezler, Ph.D., School of Nursing University of Illinois College of Medicine 1853 West Polk Street, Chicago, Illinois 60612
Medical Students, 1972 on Peoria School of Medicine	John R. Day, Ph.D. (earlier J. D. Clemmons) Peoria School of Medicine, Peoria, Illinois 61603
University of Manchester *One class with follow-up data*	Conrad M. Harris, M.D., St. Mary's Hospital Medical School, Paddington, London W2, England
University of Miami *One entering class*	Dr. Kenneth J. Smith, Department of Family Medicine University of Miami School of Medicine Miami, Florida 33152
Michigan State University *Medical Students*	Judith W. Krupka, Ph.D., Office of Admissions College of Human Medicine, Michigan State University East Lansing, Michigan 48824
Students in Osteopathic Medicine	Robert C. Ward, D. O., Department of OMERAD, Michigan State University, East Lansing, Michigan 48824
University of Missouri-Columbia *Medical Students, beginning 1974*	Jerry A. Royer, M.D. or Susan McAllister University of Missouri-Columbia, School of Medicine 807 Stadium Road, Columbia, Missouri 65201

Table A-4 *(Concluded)*

LOCATION AND DESCRIPTION	FOR FURTHER INFORMATION
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Medical College of Ohio *First 2 entering classes of medical students*	Harold B. Haley, M.D., School of Medicine University of Virginia, 213 McClanahan St, S.W. Roanoke, Virginia, 23014, or Rosalia E. Paiva, Ph.D., School of Medicine Southern Illinois University, Springfield, IL 62708
University of Virginia *Medical students*	James W. Craig, M.D., Office of Student Affairs School of Medicine, University of Virginia Charlottesville, Virginia 22901
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The Chicago Medical School *Medical Students*	Joel S. Alpert, Ph.D., The Chicago Medical School 2020 West Ogden Street, Chicago, Illinois 60612
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Notes: Whole classes of other schools have been tested by AMSA chapters in 1977-78.
Some of the above schools have tested only a few students. This is especially likely to be the case when Family Practice or other Medical Departments are listed. Some of these are testing their residents, and may test medical students who rotate through their service.
Other samples exist, but these include the ones identified by CAPT in preparing this monograph.

Appendix B

Base Populations for Health Fields and Comparison Groups

Table Number	Name of Group Tabulated	Number in Table	Compared to Base
B 1	Total Health Sample: Students & Practitioners	32,271	9,320
B 2	Students and Practitioners for Whom Sex is Known	19,254	32,271
B 3	Students and Practitioners: Males	7,041	19,254
B 4	Students and Practitioners: Females	12,213	19,254
B 5	Myers: 11th and 12th Grade Students	9,320	6,738
B 6	Myers: 11th and 12th Grade Students: Males	4,933	9,320
B 7	Myers: 11th and 12th Grade Students: Females	4,387	9,320
B 8	Data Bank: 11th and 12th Grade Students	6,738	9,320
B 9	Data Bank: 11th and 12th Grade Students: Males	3,907	6,738
B 10	Data Bank: 11th and 12th Grade Students: Females	2,831	6,738
B 11	Data Bank: College Freshmen	11,122	6,738
B 12	Data Bank: College Freshmen: Males	4,666	11,122
B 13	Data Bank: College Freshmen: Females	6,456	11,122
B 14	Data Bank: College Students	28,065	6,738
B 15	Data Bank: College Students: Males	12,322	28,065
B 16	Data Bank: College Students: Females	15,743	28,065
B 17	Data Bank: Graduate Students	8,649	6,738
B 18	Data Bank: Graduate Students: Males	4,731	8,649
B 19	Data Bank: Graduate Students: Females	3,918	8,649
B 20	Data Bank: College & Graduate Students	36,714	6,738
B 21	Data Bank: College & Graduate Students: Males	17,053	36,714
B 22	Data Bank: College & Graduate Students: Females	19,661	36,714

SOURCE OF DATA:

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HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE B-1

GROUP
TABULATED:

TOTAL HEALTH SAMPLE:
STUDENTS &
PRACTITIONERS

N=32271

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N=2697 %= 8.36 I= 1.21*	I S F J N=3395 %=10.52 I= 1.54*	I N F J N=1726 %= 5.35 I= 2.98*	I N T J N=1311 %= 4.06 I= 1.55*	JUDGING	INTROVERTS
I S T P N= 756 %= 2.34 I= 0.56*	I S F P N=1472 %= 4.56 I= 0.85*	I N F P N=2822 %= 8.74 I= 2.25*	I N T P N=1192 %= 3.69 I= 1.04	PERCEPTIVES	INTROVERTS
E S T P N= 619 %= 1.92 I= 0.29*	E S F P N=1489 %= 4.61 I= 0.49*	E N F P N=3653 %=11.32 I= 1.49*	E N T P N=1169 %= 3.62 I= 0.74*	PERCEPTIVES	EXTRAVERTS
E S T J N=2499 %= 7.74 I= 0.52*	E S F J N=3652 %=11.32 I= 0.81*	E N F J N=2340 %= 7.25 I= 2.01*	E N T J N=1479 %= 4.58 I= 1.17#	JUDGING	EXTRAVERTS

	N	%	I
E	16900	52.37	0.81*
I	15371	47.63	1.36*
S	16579	51.37	0.75*
N	15692	48.63	1.53*
T	11722	36.32	0.76*
F	20549	63.68	1.21*
J	19099	59.18	1.08*
P	13172	40.82	0.90*
IJ	9129	28.29	1.56*
IP	6242	19.34	1.14*
EP	6930	21.47	0.76*
EJ	9970	30.89	0.85*
ST	6571	20.36	0.63*
SF	10008	31.01	0.87*
NF	10541	32.66	1.93*
NT	5151	15.96	1.07"
SJ	12243	37.94	0.89*
SP	4336	13.44	0.53*
NP	8836	27.38	1.37*
NJ	6856	21.25	1.78*
TJ	7986	24.75	0.87*
TP	3736	11.58	0.61*
FP	9436	29.24	1.11*
FJ	11113	34.44	1.31*
IN	7051	21.85	1.84*
EN	8641	26.78	1.34*
IS	8320	25.78	1.11*
ES	8259	25.59	0.57*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
MYERS' STUDENTS IN PENNSYLVANIA HIGH SCHOOLS
BASE TOTAL N = 9320. SAMPLE AND BASE ARE INDEPENDENT.

```
* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

      TYPE TABLE ORDER              E 455.44   IJ 385.83   SJ  68.42   IN 459.12
                                    I 455.44   IP  26.07   SP 771.66   EN 174.76
 20.20  112.88  210.56   41.92                 EP 194.58   NP 210.46   IS  23.52
                                    S 821.05   EJ 103.06   NJ 404.06   ES ******
 89.59   11.16  240.53    0.48      N 821.05
                                               ST 607.24   TJ  51.64
535.72  304.97  106.80   31.08      T 383.92   SF  68.63   TP 357.58
                                    F 383.92   NF 871.78   FP  31.56
444.72   48.52  159.68    7.34                 NT   5.27   FJ 223.80
                                    J  61.76
                                    P  61.76
```

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SOURCE OF DATA:                      GROUP                     MBTI TYPE TABLE
                                   TABULATED:              CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                   OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS          STUDENTS AND
 HEW CONTRACT 231-76-0051       PRACTITIONERS IN          LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT       HEALTH PROFESSIONS         TOTAL CHOOSING THIS GROUP
                                  SEX   KNOWN             WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                    I = SELFSELECTION INDEX:
                                                          RATIO OF PERCENT OF TYPE
                                     N=19254              IN GROUP TO % IN SAMPLE.
 TABLE B-2

      SENSING TYPES              INTUITIVE TYPES
WITH          WITH          WITH          WITH
THINKING      FEELING       FEELING       THINKING                   N       %        I
-------------------------------------------------------
| I S T J    | I S F J    | I N F J    | I N T J    | J          E   10179  52.87   1.01"
|            |            |            |            | U          I    9075  47.13   0.99"
|            |            |            |            | D
| N=1527     | N=2026     | N=1002     | N= 725     | G          S    9996  51.92   1.01"
|            |            |            |            | I          N    9258  48.08   0.99"
| %= 7.93    | %=10.52    | %= 5.20    | %= 3.77    | N I
|            |            |            |            | G N        T    6801  35.32   0.97*
| I= 0.95*   | I= 1.00    | I= 0.97    | I= 0.93*   |   T        F   12453  64.68   1.02*
|            |            |            |            |   R
-------------------------------------------------------   O        J   11234  58.35   0.99*
| I S T P    | I S F P    | I N F P    | I N T P    |   V        P    8020  41.65   1.02*
|            |            |            |            |   E
|            |            |            |            |   R        IJ   5280  27.42   0.97*
| N= 442     | N= 931     | N=1733     | N= 689     |   T        IP   3795  19.71   1.02"
|            |            |            |            |   S
| %= 2.30    | %= 4.84    | %= 9.00    | %= 3.58    | P          EP   4225  21.94   1.02"
|            |            |            |            | E          EJ   5954  30.92   1.00
| I= 0.98    | I= 1.06#   | I= 1.03"   | I= 0.97    | R
|            |            |            |            | C          ST   3854  20.02   0.98
-------------------------------------------------------  E          SF   6142  31.90   1.03*
| E S T P    | E S F P    | E N F P    | E N T P    | P
|            |            |            |            | T          NF   6311  32.78   1.00
|            |            |            |            | I          NT   2947  15.31   0.96*
| N= 386     | N= 921     | N=2239     | N= 679     | V
|            |            |            |            | E          SJ   7316  38.00   1.00
| %= 2.00    | %= 4.78    | %=11.63    | %= 3.53    | S E        SP   2680  13.92   1.04#
|            |            |            |            |   X
| I= 1.05    | I= 1.04    | I= 1.03"   | I= 0.97    |   T        NP   5340  27.73   1.01
|            |            |            |            |   R        NJ   3918  20.35   0.96*
-------------------------------------------------------   A
| E S T J    | E S F J    | E N F J    | E N T J    | J V        TJ   4605  23.92   0.97*
|            |            |            |            | U E        TP   2196  11.41   0.99
|            |            |            |            | D R
| N=1499     | N=2264     | N=1337     | N= 854     | G T        FP   5824  30.25   1.03*
|            |            |            |            | I S        FJ   6629  34.43   1.00
| %= 7.79    | %=11.76    | %= 6.94    | %= 4.44    | N
|            |            |            |            | G          IN   4149  21.55   0.99
| I= 1.01    | I= 1.04#   | I= 0.96#   | I= 0.97    |            EN   5109  26.53   0.99
|            |            |            |            |
-------------------------------------------------------            IS   4926  25.58   0.99
                                                                   ES   5070  26.33   1.03*

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E., CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E., CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COMPOSITE OF STUDENTS & PRACTITIONERS IN ALL HEALTH AND HEALTH RELATED FIELDS.
   BASE TOTAL N = 32271. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

       TYPE TABLE ORDER            E    4.74    IJ  17.63    SJ    0.07    IN    2.53
                                   I    4.74    IP   4.14    SP    9.57    EN    1.42
11.34     0.00     1.96    10.80                EP   6.23    NP    3.01    IS    0.97
                                   S    5.62    EJ   0.02    NJ   22.91    ES   13.71
 0.46     8.23     3.02     1.78   N    5.62
                                                ST   3.51    TJ   17.64
 1.90     3.11     4.54     1.26   T   20.68    SF  17.57    TP    1.37
                                   F   20.68    NF   0.28    FP   23.46
 0.12     9.29     6.69     2.38                NT  15.30    FJ    0.00
                                   J   13.84
                                   P   13.84
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE B-3

GROUP
TABULATED:

STUDENTS AND
PRACTITIONERS IN
HEALTH PROFESSIONS
MALES

N= 7041

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE. I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

		SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING
INTROVERTS	JUDGING	ISTJ N= 698 %= 9.91 I= 1.25*	ISFJ N= 560 %= 7.95 I= 0.76*	INFJ N= 394 %= 5.60 I= 1.08	INTJ N= 422 %= 5.99 I= 1.59*
	PERCEPTIVES	ISTP N= 206 %= 2.93 I= 1.27*	ISFP N= 264 %= 3.75 I= 0.78*	INFP N= 698 %= 9.91 I= 1.10*	INTP N= 402 %= 5.71 I= 1.60*
EXTRAVERTS		ESTP N= 163 %= 2.32 I= 1.15"	ESFP N= 220 %= 3.12 I= 0.65*	ENFP N= 687 %= 9.76 I= 0.84*	ENTP N= 303 %= 4.30 I= 1.22*
	JUDGING	ESTJ N= 634 %= 9.00 [illegible] 1.16*	ESFJ N= 498 %= 7.07 I= 0.60*	ENFJ N= 451 %= 6.41 I= 0.92"	ENTJ N= 441 %= 6.26 I= 1.41*

	N	%	I
E	3397	48.25	0.91*
I	3644	51.75	1.10*
S	3243	46.06	0.89*
N	3798	53.94	1.12*
T	3269	46.43	1.31*
F	3772	53.57	0.83*
J	4098	58.20	1.00
P	2943	41.80	1.00
IJ	2074	29.46	1.07*
IP	1570	22.30	1.13*
EP	1373	19.50	0.89*
EJ	2024	28.75	0.93*
ST	1701	24.16	1.21*
SF	1542	21.90	0.69*
NF	2230	31.67	0.97"
NT	1568	22.27	1.45*
SJ	2390	33.94	0.89*
SP	853	12.11	0.87*
NP	2090	29.68	1.07*
NJ	1708	24.26	1.19*
TJ	2195	31.17	1.30*
TP	1074	15.25	1.34*
FP	1869	26.54	0.88*
FJ	1903	27.03	0.79*
IN	1916	27.21	1.26*
EN	1882	26.73	1.01
IS	1728	24.54	0.96"
ES	1515	21.52	0.82*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
STUDENTS AND PRACTITIONERS IN HEALTH PROFESSIONS FOR WHOM SEX IS KNOWN
BASE TOTAL N = 19254. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

59.75	77.81	3.45	152.06
19.65	28.44	11.29	146.08
5.44	67.07	37.84	19.69
22.98	234.89	4.98	87.50

E	95.12	IJ	23.05	SJ	77.41	IN	210.59
I	95.12	IP	46.97	SP	30.16	EN	0.22
S	152.58	EP	38.69	NP	21.03	IS	6.33
N	152.58	EJ	24.64	NJ	104.64	ES	132.69
T	599.25	ST	118.94	TJ	321.30		
F	599.25	SF	510.93	TP	162.67		
J	0.10	NF	6.16	FP	72.17		
P	0.10	NT	415.24	FJ	269.39		

SOURCE OF DATA:	GROUP TABULATED:	MBTI TYPE TABLE
MARY H. MCCAULLEY, PH.D. AND OTHER CONTRIBUTORS HEW CONTRACT 231-76-0051 AMSA FOUNDATION - CAPT	STUDENTS AND PRACTITIONERS IN HEALTH PROFESSIONS FEMALES	CENTER FOR APPLICATIONS OF PSYCHOLOGICAL TYPE
TABLE CREATED 7/31/77		LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE. I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.
TABLE B-4	N=12213	

SENSING TYPES		INTUITIVE TYPES			
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING		
I S T J N= 829 %= 6.79 I= 0.86*	I S F J N=1466 %=12.00 I= 1.14*	I N F J N= 608 %= 4.98 I= 0.96	I N T J N= 303 %= 2.48 I= 0.66*	JUDGING	INTROVERTS
I S T P N= 236 %= 1.93 I= 0.84*	I S F P N= 667 %= 5.46 I= 1.[illegible]3*	I N F P N=1035 %= 8.47 I= 0.94*	I N T P N= 287 %= 2.35 I= 0.66*	PERCEPTIVES	
E S T P N= 223 %= 1.83 I= 0.91"	E S F P N= 701 %= 5.74 I= 1.20*	E N F P N=1552 %=12.71 I= 1.09*	E N T P N= 376 %= 3.08 I= 0.87*		EXTRAVERTS
E S T J N= 865 %= 7.08 I= 0.91*	E S F J N=1766 %=14.46 I= 1.23*	E N F J N= 886 %= 7.25 I= 1.04"	E N T J N= 413 %= 3.38 I= 0.76*	JUDGING	

	N	%	I
E	6782	55.53	1.05*
I	5431	44.47	0.94*
S	6753	55.29	1.07*
N	5460	44.71	0.93*
T	3532	28.92	0.82*
F	8681	71.08	1.10*
J	7136	58.43	1.00
P	5077	41.57	1.00
IJ	3206	26.25	0.96*
IP	2225	18.22	0.92*
EP	2852	23.35	1.06*
EJ	3930	32.18	1.04*
ST	2153	17.63	0.88*
SF	4600	37.66	1.18*
NF	4081	33.42	1.02"
NT	1379	11.29	0.74*
SJ	4926	40.33	1.06*
SP	1827	14.96	1.07*
NP	3250	26.61	0.96*
NJ	2210	18.10	0.89*
TJ	2410	19.73	0.83*
TP	1122	9.19	0.81*
FP	3955	32.38	1.07*
FJ	4726	38.70	1.12*
IN	2233	18.28	0.85*
EN	3227	26.42	1.00
IS	3198	26.19	1.02"
ES	3555	29.11	1.11*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
STUDENTS AND PRACTITIONERS IN HEALTH PROFESSIONS FOR WHOM SEX IS KNOWN
BASE TOTAL N = 19254. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER			
59.75	77.81	3.45	152.06
19.65	28.44	11.29	146.08
5.44	67.07	37.84	19.69
22.98	234.89	4.98	87.50

E	95.12	IJ	23.05	SJ	77.41	IN	210.59
I	95.12	IP	46.97	SP	30.16	EN	0.22
S	152.58	EP	38.69	NP	21.03	IS	6.33
N	152.58	EJ	24.64	NJ	104.64	ES	132.69
T	599.25	ST	118.94	TJ	321.30		
F	599.25	SF	510.93	TP	162.67		
J	0.10	NF	6.16	FP	72.17		
P	0.10	NT	415.24	FJ	269.38		

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

MYERS' STUDENTS IN
PENNSYLVANIA
HIGH SCHOOLS

N= 9320

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE B-5

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 645 %= 6.92 I= 1.13"	I S F J N= 636 %= 6.82 I= 0.93	I N F J N= 167 %= 1.79 I= 0.59*	I N T J N= 244 %= 2.62 I= 1.15	JUDGING INTROVERTS
I S T P N= 388 %= 4.16 I= 1.07	I S F P N= 503 %= 5.40 I= 0.70*	I N F P N= 363 %= 3.89 I= 0.42*	I N T P N= 330 %= 3.54 I= 0.88	PERCEPTIVES
E S T P N= 608 %= 6.52 I= 1.48*	E S F P N= 873 %= 9.37 I= 0.97	E N F P N= 708 %= 7.60 I= 0.59*	E N T P N= 456 %= 4.89 I= 1.08	EXTRAVERTS
E S T J N=1395 %=14.97 I= 2.12*	E S F J N=1302 %=13.97 I= 1.30*	E N F J N= 336 %= 3.61 I= 0.86	E N T J N= 366 %= 3.93 I= 1.42*	JUDGING

	N	%	I
E	6044	64.85	1.15*
I	3276	35.15	0.80*
S	6350	68.13	1.20*
N	2970	31.87	0.74*
T	4432	47.55	1.35*
F	4888	52.45	0.81*
J	5091	54.62	1.26*
P	4229	45.38	0.80*
IJ	1692	18.15	0.97
IP	1584	17.00	0.68*
EP	2645	28.38	0.90*
EJ	3399	36.47	1.47*
ST	3036	32.58	1.52*
SF	3314	35.56	1.00
NF	1574	16.89	0.57*
NT	1396	14.98	1.10"
SJ	3978	42.68	1.36*
SP	2372	25.45	0.99
NP	1857	19.92	0.65*
NJ	1113	11.94	0.98
TJ	2650	28.43	1.56*
TP	1782	19.12	1.13*
FP	2447	26.26	0.66*
FJ	2441	26.19	1.04
IN	1104	11.85	0.63*
EN	1866	20.02	0.82*
IS	2172	23.30	0.93#
ES	4178	44.83	1.41*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
HIGH SCHOOL JUNIORS AND SENIORS IN THE CAPT DATA BANK
BASE TOTAL N = 6738. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

3.83	1.54	25.90	1.79
0.76	35.30	200.60	2.51
32.92	0.44	123.44	1.07
238.30	36.89	3.56	16.03

E	121.90	IJ	1.00	SJ	216.41	IN	145.19
I	121.90	IP	153.75	SP	0.12	EN	43.30
		EP	18.33	NP	249.93	IS	6.76
S	210.48	EJ	249.15	NJ	0.34	ES	274.67
N	210.48						
		ST	238.76	TJ	221.80		
T	248.48	SF	0.01	TP	13.44		
F	248.48	NF	356.72	FP	322.01		
		NT	5.95	FJ	1.72		
J	193.09						
P	193.09						

```
SOURCE OF DATA:                      GROUP                     MBTI TYPE TABLE
                                   TABULATED:            CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                  OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS         MYERS' STUDENTS IN
 HEW CONTRACT 231-76-0051           PENNSYLVANIA         LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT            HIGH SCHOOLS         TOTAL CHOOSING THIS GROUP
                                        MALES            WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                   I = SELFSELECTION INDEX;
                                                         RATIO OF PERCENT OF TYPE
                                       N= 4933           IN GROUP TO % IN SAMPLE.
 TABLE B-6

      SENSING TYPES              INTUITIVE TYPES
WITH              WITH              WITH              WITH                            N       %       I
THINKING          FEELING           FEELING           THINKING
-----------------------------------------------------------------------------         E   3054  61.91   0.95*
| I S T J          | I S F J          | I N F J          | I N T J          |  J      I   1879  38.09   1.08*
|                  |                  |                  |                  |  U
|                  |                  |                  |                  |  D      S   3250  65.88   0.97*
| N= 432           | N= 221           | N=  79           | N= 182           |  G      N   1683  34.12   1.07*
|                  |                  |                  |                  |  I
| %= 8.76          | %= 4.48          | %= 1.60          | %= 3.69          |  N I    T   3012  61.06   1.28*
|                  |                  |                  |                  |  G N    F   1921  38.94   0.74*
| I= 1.27*         | I= 0.66*         | I= 0.89          | I= 1.41*         |    T
|                  |                  |                  |                  |    R    J   2564  51.98   0.95*
-----------------------------------------------------------------------------     O    P   2369  48.02   1.06*
| I S T P          | I S F P          | I N F P          | I N T P          |    V
|                  |                  |                  |                  |    E    IJ   914  18.53   1.02
|                  |                  |                  |                  |    R    IP   965  19.56   1.15*
| N= 302           | N= 255           | N= 172           | N= 236           |    T
|                  |                  |                  |                  |    S    EP  1404  28.46   1.00
| %= 6.12          | %= 5.17          | %= 3.49          | %= 4.78          |  P      EJ  1650  33.45   0.92*
|                  |                  |                  |                  |  E
| I= 1.47*         | I= 0.96          | I= 0.90"         | I= 1.35*         |  R      ST  2015  40.85   1.25*
|                  |                  |                  |                  |  C      SF  1235  25.04   0.70*
-----------------------------------------------------------------------------   E
| E S T P          | E S F P          | E N F P          | E N T P          |  P      NF   686  13.91   0.82*
|                  |                  |                  |                  |  T      NT   997  20.21   1.35*
|                  |                  |                  |                  |  I
| N= 439           | N= 354           | N= 295           | N= 316           |  V      SJ  1900  38.52   0.90*
|                  |                  |                  |                  |  E      SP  1350  27.37   1.08*
| %= 8.90          | %= 7.18          | %= 5.98          | %= 6.41          |  S E
|                  |                  |                  |                  |    X    NP  1019  20.66   1.04
| I= 1.36*         | I= 0.77*         | I= 0.79*         | I= 1.31*         |    T    NJ   664  13.46   1.13*
|                  |                  |                  |                  |    R
-----------------------------------------------------------------------------     A    TJ  1719  34.85   1.23*
| E S T J          | E S F J          | E N F J          | E N T J          |  J V    TP  1293  26.21   1.37*
|                  |                  |                  |                  |  U E
|                  |                  |                  |                  |  D R    FP  1076  21.81   0.83*
| N= 842           | N= 405           | N= 140           | N= 263           |  G T    FJ   845  17.13   0.65*
|                  |                  |                  |                  |  I S
| %=17.07          | %= 8.21          | %= 2.84          | %= 5.33          |  N      IN   669  13.56   1.14*
|                  |                  |                  |                  |  G      EN  1014  20.56   1.03
| I= 1.14*         | I= 0.59*         | I= 0.79*         | I= 1.36*         |
|                  |                  |                  |                  |         IS  1210  24.53   1.05#
-----------------------------------------------------------------------------           ES  2040  41.35   0.92*

    NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
          "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
          #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
          *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

    BASE POPULATION USED IN CALCULATING SELECTION RATIO:
    MYERS' STUDENTS IN PENNSYLVANIA HIGH SCHOOLS
    BASE TOTAL N =  9320. SAMPLE AND BASE ARE DEPENDENT.

  * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER              E  39.74    IJ   0.99    SJ  74.36    IN  29.56
                                      I  39.74    IP  48.93    SP  20.28    EN   1.87
  54.29    90.56     2.16    47.19                EP   0.03    NP   3.52    IS   8.78
                                      S  24.44    EJ  41.30    NJ  22.97    ES  51.14
 100.80     1.06     4.66    47.43    N  24.44
                                                  ST 326.51    TJ 211.84
  96.99    59.25    39.01    51.56    T 766.34    SF 506.39    TP 340.76
                                      F 766.34    NF  66.40    FP 106.85
  36.34   289.30    17.75    54.79                NT 225.29    FJ 445.14
                                      J  29.65
                                      P  29.65
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE B-7

GROUP
TABULATED:

MYERS' STUDENTS IN
PENNSYLVANIA
HIGH SCHOOLS
FEMALES

N= 4387

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX;
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	 WITH FEELING	INTUITIVE TYPES WITH FEELING	 WITH THINKING		
I S T J N= 213 %= 4.86 I= 0.70*	I S F J N= 415 %= 9.46 I= 1.39*	I N F J N= 88 %= 2.01 I= 1.12	I N T J N= 62 %= 1.41 I= 0.54*	JUDGING	INTROVERTS
I S T P N= 86 %= 1.96 I= 0.47*	I S F P N= 248 %= 5.65 I= 1.05	I N F P N= 191 %= 4.35 I= 1.12"	I N T P N= 94 %= 2.14 I= 0.61*	PERCEPTIVES	
E S T P N= 169 %= 3.85 I= 0.59*	E S F P N= 519 %=11.83 I= 1.26*	E N F P N= 413 %= 9.41 I= 1.24*	E N T P N= 140 %= 3.19 I= 0.65*		EXTRAVERTS
E S T J N= 553 %=12.61 I= 0.84*	E S F J N= 897 %=20.45 I= 1.46*	E N F J N= 196 %= 4.47 I= 1.24*	E N T J N= 103 %= 2.35 I= 0.60*	JUDGING	

	N	%	I
E	2990	68.16	1.05*
I	1397	31.84	0.91*
S	3100	70.66	1.04*
N	1287	29.34	0.92*
T	1420	32.37	0.68*
F	2967	67.63	1.29*
J	2527	57.60	1.05*
P	1860	42.40	0.93*
IJ	778	17.73	0.98
IP	619	14.11	0.83*
EP	1241	28.29	1.00
EJ	1749	39.87	1.09*
ST	1021	23.27	0.71*
SF	2079	47.39	1.33*
NF	888	20.24	1.20*
NT	399	9.10	0.61*
SJ	2078	47.37	1.11*
SP	1022	23.30	0.92*
NP	838	19.10	0.96
NJ	449	10.23	0.86*
TJ	931	21.22	0.75*
TP	489	11.15	0.58*
FP	1371	31.25	1.19*
FJ	1596	36.38	1.39*
IN	435	9.92	0.84*
EN	852	19.42	0.97
IS	962	21.93	0.94#
ES	2138	48.73	1.09*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
MYERS' STUDENTS IN PENNSYLVANIA HIGH SCHOOLS
BASE TOTAL N = 9320, SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

54.89	90.56	2.16	47.19
100.80	1.06	4.66	47.43
96.99	59.25	39.01	51.56
36.34	289.30	17.75	54.79

E	39.74	IJ	0.99	SJ	74.36	IN	29.56
I	39.74	IP	48.93	SP	20.28	EN	1.87
S	24.44	EP	0.03	NP	3.52	IS	8.78
N	24.44	EJ	41.30	NJ	22.97	ES	51.14
T	766.34	ST	326.51	TJ	211.84		
F	766.34	SF	506.39	TP	340.76		
J	29.65	NF	66.40	FP	106.85		
P	29.65	NT	225.29	FJ	445.14		

```
SOURCE OF DATA:                        GROUP                     MBTI TYPE TABLE
                                     TABULATED:            CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                    OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS               HIGH SCHOOL
 HEW CONTRACT 231-76-0051         JUNIORS AND SENIORS      LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT            IN CAPT DATA BANK      TOTAL CHOOSING THIS GROUP
                                                           WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                     I = SELFSELECTION INDEX;
                                                           RATIO OF PERCENT OF TYPE
                                        N= 6738            IN GROUP TO % IN SAMPLE.
 TABLE B-8

       SENSING TYPES                   INTUITIVE TYPES
WITH              WITH               WITH              WITH
THINKING          FEELING            FEELING           THINKING                          N      %       I
-----------------------------------------------------------------------------        E    3790  56.25   0.87*
| I S T J          | I S F J          | I N F J          | I N T J          | J      I    2948  43.75   1.24*
|                  |                  |                  |                  | U
|                  |                  |                  |                  | D      S    3838  56.96   0.84*
| N= 414           | N= 494           | N= 203           | N= 154           | G      N    2900  43.04   1.35*
|                  |                  |                  |                  | I
| %= 6.14          | %= 7.33          | %= 3.01          | %= 2.29          | N I    T    2365  35.10   0.74*
|                  |                  |                  |                  | G N    F    4373  64.90   1.24*
| I= 0.89"         | I= 1.07          | I= 1.68*         | I= 0.87          |   T
|                  |                  |                  |                  |   R    J    2932  43.51   0.80*
-----------------------------------------------------------------------------   O    P    3806  56.49   1.24*
| I S T P          | I S F P          | I N F P          | I N T P          |   V
|                  |                  |                  |                  |   E    IJ   1265  18.77   1.03
|                  |                  |                  |                  |   R    IP   1683  24.98   1.47*
| N= 262           | N= 520           | N= 630           | N= 271           |   T
|                  |                  |                  |                  |   S    EP   2123  31.51   1.11*
| %= 3.89          | %= 7.72          | %= 9.35          | %= 4.02          | P      EJ   1667  24.74   0.68*
|                  |                  |                  |                  | E
| I= 0.93          | I= 1.43*         | I= 2.40*         | I= 1.14          | R      ST   1448  21.49   0.66*
|                  |                  |                  |                  | C      SF   2390  35.47   1.00
----------------------------------------------------------------------------- E
| E S T F          | E S F P          | E N F P          | E N T P          | P      NF   1983  29.43   1.74*
|                  |                  |                  |                  | T      NT    917  13.61   0.91"
|                  |                  |                  |                  | I
| N= 257           | N= 652           | N= 868           | N= 306           | V      SJ   2107  31.27   0.73*
|                  |                  |                  |                  | E      SP   1731  25.69   1.01
| %= 4.41          | %= 9.68          | %=12.88          | %= 4.54          | S E
|                  |                  |                  |                  |   X    NP   2075  30.80   1.55*
| I= 0.68*         | I= 1.03          | I= 1.70*         | I= 0.93          |   T    NJ    825  12.24   1.03
|                  |                  |                  |                  |   R
-----------------------------------------------------------------------------   A    TJ   1229  18.24   0.64*
| E S T J          | E S F J          | E N F J          | E N T J          | J V    TP   1136  16.86   0.88*
|                  |                  |                  |                  | U E
|                  |                  |                  |                  | D R    FP   2670  39.63   1.51*
| N= 475           | N= 724           | N= 282           | N= 186           | G T    FJ   1703  25.27   0.97
|                  |                  |                  |                  | I S
| %= 7.05          | %=10.75          | %= 4.19          | %= 2.76          | N      IN   1258  18.67   1.58*
|                  |                  |                  |                  | G      EN   1642  24.37   1.22*
| I= 0.47*         | I= 0.77*         | I= 1.16          | I= 0.70*         |
|                  |                  |                  |                  |        IS   1690  25.08   1.08#
-----------------------------------------------------------------------------          ES   2148  31.88   0.71*

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
          "   IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
          #   IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
          *   IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   MYERS' STUDENTS IN PENNSYLVANIA HIGH SCHOOLS
   BASE TOTAL N =  9320. SAMPLE AND BASE ARE INDEPENDENT.

  * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER                E 121.90    IJ    1.00    SJ 216.41    IN 145.19
                                        I 121.90    IP 153.75     SP    0.12    EN  43.30
   3.83     1.54    25.90      1.79                 EP  18.33     NP 249.93    IS   6.76
                                        S 210.48    EJ 249.15     NJ    0.34    ES 274.67
   0.76    35.30   200.60      2.51     N 210.48
                                                    ST 238.76     TJ 221.80
  32.92     0.44   123.44      1.07     T 248.48    SF   0.01     TP  13.44
                                        F 248.48    NF 356.72     FP 322.01
 238.30    36.89     3.56     16.03                 NT   5.95     FJ   1.72
                                        J 193.09
                                        P 193.09
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE B-9

GROUP
TABULATED:

HIGH SCHOOL
JUNIORS AND SENIORS
IN CAPT DATA BANK
MALES

N= 3907

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
ISTJ N= 318 %= 8.14 I= 1.32*	ISFJ N= 250 %= 6.40 I= 0.87*	INFJ N= 124 %= 3.17 I= 1.05	INTJ N= 125 %= 3.20 I= 1.40*	JUDGING	INTROVERTS
ISTP N= 210 %= 5.37 I= 1.38*	ISFP N= 300 %= 7.68 I= 0.99	INFP N= 337 %= 8.63 I= 0.92"	INTP N= 200 %= 5.12 I= 1.27*	PERCEPTIVES	
ESTP N= 216 %= 5.53 I= 1.25*	ESFP N= 311 %= 7.96 I= 0.82*	ENFP N= 373 %= 9.55 I= 0.74*	ENTP N= 214 %= 5.48 I= 1.21*		EXTRAVERTS
ESTJ N= 357 %= 9.14 I= 1.30*	ESFJ N= 310 %= 7.93 I= 0.74*	ENFJ N= 127 %= 3.25 I= 0.78*	ENTJ N= 135 %= 3.46 I= 1.25*	JUDGING	

	N	%	I
E	2043	52.29	0.93*
I	1864	47.71	1.09*
S	2272	58.15	1.02"
N	1635	41.85	0.97"
T	1775	45.43	1.29*
F	2132	54.57	0.84*
J	1746	44.69	1.03"
P	2161	55.31	0.98"
IJ	817	20.91	1.11*
IP	1047	26.80	1.07*
EP	1114	28.51	0.90*
EJ	929	23.78	0.96"
ST	1101	28.18	1.31*
SF	1171	29.97	0.84*
NF	961	24.60	0.84*
NT	674	17.25	1.27*
SJ	1235	31.61	1.01
SP	1037	26.54	1.03
NP	1124	28.77	0.93*
NJ	511	13.08	1.07"
TJ	935	23.93	1.31*
TP	840	21.50	1.28*
FP	1321	33.81	0.85*
FJ	811	20.76	0.82*
IN	786	20.12	1.08*
EN	849	21.73	0.89*
IS	1078	27.59	1.10*
ES	1194	30.56	0.96#

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
HIGH SCHOOL JUNIORS AND SENIORS IN THE CAPT DATA BANK
BASE TOTAL N = 6738. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

64.18	11.91	0.83	34.77
54.59	0.02	5.76	28.99
27.72	31.34	92.17	18.79
61.86	76.59	20.26	15.73

E	59.18	IJ	27.85	SJ	0.50	IN	12.83		
I	59.18	IP	16.44	SP	3.54	EN	35.14		
		EP	38.65	NP	17.92	IS	31.17		
S	5.39	EJ	4.63	NJ	6.04	ES	7.44		
N	5.39								
		ST	246.68	TJ	201.99				
T	435.75	SF	122.83	TP	142.84				
F	435.75	NF	104.59	FP	131.43				
		NT	104.89	FJ	100.46				
J	5.22								
P	5.22								

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE B-10

GROUP
TABULATED:

HIGH SCHOOL
JUNIORS AND SENIORS
IN CAPT DATA BANK
FEMALES

N= 2831

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX;
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	 WITH FEELING	INTUITIVE TYPES WITH FEELING	 WITH THINKING		
I S T J N= 96 %= 3.39 I= 0.55*	I S F J N= 244 %= 8.62 I= 1.18*	I N F J N= 79 %= 2.79 I= 0.93	I N T J N= 29 %= 1.02 I= 0.45*	JUDGING	INTROVERTS
I S T P N= 52 %= 1.84 I= 0.47*	I S F P N= 220 %= 7.77 I= 1.01	I N F P N= 293 %=10.35 I= 1.11"	I N T P N= 71 %= 2.51 I= 0.62*	PERCEPTIVES	
E S T P N= 81 %= 2.86 I= 0.65*	E S F P N= 341 %=12.05 I= 1.24*	E N F P N= 495 %=17.48 I= 1.36*	E N T P N= 92 %= 3.25 I= 0.72*		EXTRAVERTS
E S T J N= 118 %= 4.17 I= 0.55*	E S F J N= 414 %=14.62 I= 1.36*	E N F J N= 155 %= 5.48 I= 1.31*	E N T J N= 51 %= 1.80 I= 0.65*	JUDGING	

	N	%	I
E	1747	61.71	1.10*
I	1084	38.29	0.88*
S	1566	55.32	0.97"
N	1265	44.68	1.04"
T	590	20.84	0.59*
F	2241	79.16	1.22*
J	1186	41.89	0.96"
P	1645	58.11	1.03"
IJ	448	15.82	0.84*
IP	636	22.47	0.90*
EP	1009	35.64	1.13*
EJ	738	26.07	1.05"
ST	347	12.26	0.57*
SF	1219	43.06	1.21*
NF	1022	36.10	1.23*
NT	243	8.58	0.63*
SJ	872	30.80	0.99
SP	694	24.51	0.95
NP	951	33.59	1.09*
NJ	314	11.09	0.91"
TJ	294	10.39	0.57*
TP	296	10.46	0.62*
FP	1349	47.65	1.20*
FJ	892	31.51	1.25*
IN	472	16.67	0.89*
EN	793	28.01	1.15*
IS	612	21.62	0.86*
ES	954	33.70	1.06#

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
HIGH SCHOOL JUNIORS AND SENIORS IN THE CAPT DATA BANK
BASE TOTAL N = 6738. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

64.18	11.91	0.83	34.77
54.99	0.02	5.76	28.99
27.72	31.34	92.17	18.79
61.86	76.59	20.26	16.73

E	59.18	IJ	27.85	SJ	0.50	IN	12.83
I	59.18	IP	16.44	SP	3.54	EN	35.14
		EP	38.65	NP	17.92	IS	31.17
S	5.39	EJ	4.63	NJ	6.04	ES	7.44
N	5.39						
		ST	246.68	TJ	201.99		
T	435.75	SF	122.83	TP	142.84		
F	435.75	NF	104.59	FP	131.43		
		NT	104.89	FJ	100.46		
J	5.22						
P	5.22						

```
SOURCE OF DATA:                        GROUP                      MBTI TYPE TABLE
                                     TABULATED:              CENTER FOR APPLICATIONS
  MARY H. MCCAULLEY, PH.D.                                     OF PSYCHOLOGICAL TYPE
   AND OTHER CONTRIBUTORS            COLLEGE FRESHMEN
  HEW CONTRACT 231-76-0051         IN CAPT DATA BANK         LEGEND: % = PERCENT OF
   AMSA FOUNDATION - CAPT                                    TOTAL CHOOSING THIS GROUP
                                                             WHO FALL INTO THIS TYPE.
  TABLE CREATED 7/31/77                                      I = SELFSELECTION INDEX:
                                                             RATIO OF PERCENT OF TYPE
                                         N=11122             IN GROUP TO % IN SAMPLE.
  TABLE B-11

       SENSING TYPES               INTUITIVE TYPES
  WITH          WITH           WITH          WITH                           N      %       I
  THINKING      FEELING        FEELING       THINKING
 -----------------------------------------------------------          E   6136  55.17    0.98
 | I S T J    | I S F J     | I N F J     | I N T J     | J           I   4986  44.83    1.02
 |            |             |             |             | U
 |            |             |             |             | D           S   6191  55.66    0.98
 | N= 757     | N=1087      | N= 447      | N= 312      | G           N   4931  44.34    1.03
 |            |             |             |             | I
 | %= 6.81    | %= 9.77     | %= 4.02     | %= 2.81     | N I         T   3632  32.66    0.93*
 |            |             |             |             | G N         F   7490  67.34    1.04*
 | I= 1.11    | I= 1.33*    | I= 1.33*    | I= 1.23"    |   T
 |            |             |             |             |   R         J   5869  52.77    1.21*
 -----------------------------------------------------------  O         P   5253  47.23    0.84*
 | I S T P    | I S F P     | I N F P     | I N T P     |   V
 |            |             |             |             |   E         IJ  2603  23.40    1.25*
 |            |             |             |             |   R         IP  2383  21.43    0.86*
 | N= 299     | N= 720      | N=1014      | N= 350      |   T
 |            |             |             |             |   S         EP  2870  25.80    0.82*
 | %= 2.69    | %= 6.47     | %= 9.12     | %= 3.15     | P           EJ  3266  29.37    1.19*
 |            |             |             |             | E
 | I= 0.69*   | I= 0.84#    | I= 0.98     | I= 0.78#    | R           ST  2224  20.00    0.93"
 |            |             |             |             | C           SF  3967  35.67    1.01
 -----------------------------------------------------------  E
 | E S T P    | E S F P     | E N F P     | E N T P     | P           NF  3523  31.68    1.08#
 |            |             |             |             | T           NT  1408  12.66    0.93
 |            |             |             |             | I
 | N= 295     | N= 771      | N=1414      | N= 390      | V           SJ  4106  36.92    1.18*
 |            |             |             |             | E           SP  2085  18.75    0.73*
 | %= 2.65    | %= 6.93     | %=12.71     | %= 3.51     | S E
 |            |             |             |             |   X         NP  3168  28.48    0.92*
 | I= 0.60*   | I= 0.72*    | I= 0.99     | I= 0.77*    |   T         NJ  1763  15.85    1.29*
 |            |             |             |             |   R
 -----------------------------------------------------------  A         TJ  2298  20.66    1.13*
 | E S T J    | E S F J     | E N F J     | E N T J     | J V         TP  1334  11.99    0.71*
 |            |             |             |             | U E
 |            |             |             |             | D R         FP  3919  35.24    0.89*
 | N= 873     | N=1389      | N= 648      | N= 356      | G T         FJ  3571  32.11    1.27*
 |            |             |             |             | I S
 | %= 7.85    | %=12.49     | %= 5.83     | %= 3.20     | N           IN  2123  19.09    1.02
 |            |             |             |             | G           EN  2808  25.25    1.04
 | I= 1.11"   | I= 1.16*    | I= 1.39*    | I= 1.16     |
 |            |             |             |             |             IS  2863  25.74    1.03
 -----------------------------------------------------------          ES  3328  29.92    0.94#

    NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "   IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
         #   IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
         *   IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_   (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

    BASE POPULATION USED IN CALCULATING SELECTION RATIO:
    HIGH SCHOOL JUNIORS AND SENIORS IN THE CAPT DATA BANK
    BASE TOTAL N =  6738, SAMPLE AND BASE ARE INDEPENDENT.

  * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

         TYPE TABLE ORDER                E    1.98   IJ   53.01   SJ   58.99    IN   0.48
                                         I    1.98   IP   30.10   SP  120.41    EN   1.73
   3.00     31.01     12.12     4.46                 EP   67.76   NP   10.81    IS   0.96
                                         S    2.86   EJ   44.90   NJ   44.07    ES   7.55
  19.86     10.05      0.27     9.57     N    2.86
                                                     ST    5.73   TJ   15.53
  40.35     43.09      0.11    12.00     T   11.23   SF    0.07   TP   83.35
                                         F   11.23   NF    9.92   FP   34.73
   3.85     12.23     22.89     2.77                 NT    3.34   FJ   94.14
                                         J  143.79
                                         P  143.79
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE B-12

GROUP
TABULATED:

COLLEGE FRESHMEN
IN CAPT DATA BANK

MALES

N= 4666

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 411 %= 8.81 I= 1.29*	I S F J N= 389 %= 8.34 I= 0.85*	I N F J N= 195 %= 4.18 I= 1.04	I N T J N= 203 %= 4.35 I= 1.55*	JUDGING INTROVERTS
I S T P N= 191 %= 4.09 I= 1.52*	I S F P N= 331 %= 7.09 I= 1.10"	I N F P N= 446 %= 9.56 I= 1.05	I N T P N= 199 %= 4.26 I= 1.36*	PERCEPTIVES INTROVERTS
E S T P N= 171 %= 3.66 I= 1.38*	E S F P N= 277 %= 5.94 I= 0.86*	E N F P N= 459 %= 9.84 I= 0.77*	E N T P N= 199 %= 4.26 I= 1.22*	PERCEPTIVES EXTRAVERTS
E S T J N= 405 %= 8.68 I= 1.11#	E S F J N= 366 %= 7.84 I= 0.63*	E N F J N= 223 %= 4.78 I= 0.82*	E N T J N= 201 %= 4.31 I= 1.35*	JUDGING EXTRAVERTS

	N	%	I
E	2301	49.31	0.89*
I	2365	50.69	1.13*
S	2541	54.46	0.98"
N	2125	45.54	1.03"
T	1980	42.43	1.30*
F	2686	57.57	0.85*
J	2393	51.29	0.97#
P	2273	48.71	1.03#
IJ	1198	25.68	1.10*
IP	1167	25.01	1.17*
EP	1106	23.70	0.92*
EJ	1195	25.61	0.87*
ST	1178	25.25	1.26*
SF	1363	29.21	0.82*
NF	1323	28.35	0.90*
NT	802	17.19	1.36*
SJ	1571	33.67	0.91*
SP	970	20.79	1.11*
NP	1303	27.93	0.98
NJ	822	17.62	1.11*
TJ	1220	26.15	1.27*
TP	760	16.29	1.36*
FP	1513	32.43	0.92*
FJ	1173	25.14	0.78*
IN	1043	22.35	1.17*
EN	1082	23.19	0.92*
IS	1322	28.33	1.10*
ES	1219	26.13	0.87*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COLLEGE FRESHMEN ON THE CAPT DATABANK
BASE TOTAL N = 11122. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

50.80	18.81	0.53	70.41
60.66	5.11	1.89	32.96
31.91	12.35	59.93	13.66
7.67	158.68	16.06	31.79

E	111.44	IJ	23.13	SJ	36.43	IN	55.48
I	111.44	IP	61.36	SP	22.01	EN	18.04
S	4.74	EP	18.54	NP	1.23	IS	28.23
N	4.74	EJ	54.63	NJ	18.78	ES	55.28
T	349.51	ST	138.49	TJ	147.52		
F	349.51	SF	146.04	TP	140.40		
J	7.10	NF	40.99	FP	27.82		
P	7.10	NT	149.09	FJ	179.05		

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE B-13

GROUP
TABULATED:

COLLEGE FRESHMEN
IN CAPT DATA BANK

FEMALES

N= 6456

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX;
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 346 %= 5.36 I= 0.79*	I S F J N= 698 %=10.81 I= 1.11*	I N F J N= 252 %= 3.90 I= 0.97	I N T J N= 109 %= 1.69 I= 0.60*	JUDGING INTROVERTS
I S T P N= 108 %= 1.67 I= 0.62*	I S F P N= 389 %= 6.03 I= 0.93"	I N F P N= 568 %= 8.80 I= 0.97	I N T P N= 151 %= 2.34 I= 0.74*	PERCEPTIVES
E S T P N= 124 %= 1.92 I= 0.72*	E S F P N= 494 %= 7.65 I= 1.10*	E N F P N= 955 %=14.79 I= 1.16*	E N T P N= 191 %= 2.96 I= 0.84*	EXTRAVERTS
E S T J N= 468 %= 7.25 I= 0.92#	E S F J N=1023 %=15.85 I= 1.27*	E N F J N= 425 %= 6.58 I= 1.13*	E N T J N= 155 %= 2.40 I= 0.75*	JUDGING

	N	%	I
E	3835	59.40	1.08*
I	2621	40.60	0.91*
S	3650	56.54	1.02"
N	2806	43.46	0.98"
T	1652	25.59	0.78*
F	4804	74.41	1.10*
J	3476	53.84	1.02#
P	2980	46.16	0.98#
IJ	1405	21.76	0.93*
IP	1216	18.84	0.88*
EP	1764	27.32	1.06*
EJ	2071	32.08	1.09*
ST	1046	16.20	0.81*
SF	2604	40.33	1.13*
NF	2200	34.08	1.08*
NT	606	9.39	0.74*
SJ	2535	39.27	1.06*
SP	1115	17.27	0.92*
NP	1865	28.89	1.01
NJ	941	14.58	0.92*
TJ	1078	16.70	0.81*
TP	574	8.89	0.74*
FP	2406	37.27	1.06*
FJ	2398	37.14	1.16*
IN	1080	16.73	0.88*
EN	1726	26.73	1.06*
IS	1541	23.87	0.93*
ES	2109	32.67	1.09*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COLLEGE FRESHMEN ON THE CAPT DATABANK
BASE TOTAL N = 11122. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

50.80	18.81	0.53	70.41
60.66	5.11	1.89	32.96
31.91	12.35	59.93	13.66
7.67	158.66	16.06	31.79

E	111.44	IJ	23.13	SJ	36.43	IN	55.48
I	111.44	IP	61.36	SP	22.01	EN	18.04
		EP	18.54	NP	1.23	IS	28.23
S	4.74	EJ	54.63	NJ	18.78	ES	55.28
N	4.74						
		ST	138.49	TJ	147.52		
T	349.51	SF	146.04	TP	140.40		
F	349.51	NF	40.99	FP	27.82		
		NT	149.09	FJ	179.05		
J	7.10						
P	7.10						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE B-14

GROUP
TABULATED:

COLLEGE STUDENTS
IN CAPT DATA BANK

N=28065

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX:
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N=1985 %= 7.07 I= 1.15#	I S F J N=2710 %= 9.66 I= 1.32*	I N F J N=1239 %= 4.41 I= 1.47*	I N T J N= 945 %= 3.37 I= 1.47*	JUDGING INTROVERTS
I S T P N= 775 %= 2.76 I= 0.71*	I S F P N=1638 %= 5.84 I= 0.76*	I N F P N=2766 %= 9.86 I= 1.05	I N T P N=1042 %= 3.71 I= 0.92	PERCEPTIVES
E S T P N= 743 %= 2.65 I= 0.60*	E S F P N=1687 %= 6.01 I= 0.62*	E N F P N=3468 %=12.36 I= 0.96	E N T P N=1069 %= 3.81 I= 0.84#	EXTRAVERTS
E S T J N=2150 %= 7.66 I= 1.09	E S F J N=3118 %=11.11 I= 1.03	E N F J N=1634 %= 5.82 I= 1.39*	E N T J N=1096 %= 3.91 I= 1.41*	JUDGING

	N	%	I
E	14965	53.32	0.95*
I	13100	46.68	1.07*
S	14806	52.76	0.93*
N	13259	47.24	1.10*
T	9805	34.94	1.00
F	18260	65.06	1.00
J	14877	53.01	1.22*
P	13188	46.99	0.83*
IJ	6879	24.51	1.31*
IP	6221	22.17	0.89*
EP	6967	24.82	0.79*
EJ	7998	28.50	1.15*
ST	5653	20.14	0.94"
SF	9153	32.61	0.92*
NF	9107	32.45	1.10*
NT	4152	14.79	1.09"
SJ	9963	35.50	1.14*
SP	4843	17.26	0.67*
NP	8345	29.73	0.97
NJ	4914	17.51	1.43*
TJ	6176	22.01	1.21*
TP	3629	12.93	0.77*
FP	9559	34.06	0.86*
FJ	8701	31.00	1.23*
IN	5992	21.35	1.14*
EN	7267	25.89	1.06#
IS	7108	25.33	1.01
ES	7698	27.43	0.86*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
HIGH SCHOOL JUNIORS AND SENIORS IN THE CAPT DATA BANK
BASE TOTAL N = 6738. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

7.30	35.13	26.89	20.79
23.87	33.05	1.58	1.43
58.09	116.45	1.37	7.68
2.91	0.74	27.99	20.07

E	18.71
I	18.71
S	38.62
N	38.62
T	0.06
F	0.06
J	196.04
P	196.04

IJ	99.77
IP	24.47
EP	125.77
EJ	38.25
ST	6.08
SF	20.01
NF	22.82
NT	6.13

SJ	42.90
SP	252.25
NP	2.92
NJ	109.39
TJ	46.01
TP	70.98
FP	73.85
FJ	85.08

IN	23.67
EN	6.63
IS	0.17
ES	53.03

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE B-15

GROUP
TABULATED:

COLLEGE STUDENTS
IN CAPT DATA BANK

MALES

N=12322

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX;
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N=1169 %= 9.49 I= 1.34*	I S F J N= 959 %= 7.78 I= 0.81*	I N F J N= 510 %= 4.14 I= 0.94"	I N T J N= 621 %= 5.04 I= 1.50*	JUDGING INTROVERTS
I S T F N= 504 %= 4.09 I= 1.48*	I S F P N= 681 %= 5.53 I= 0.95"	I N F P N=1194 %= 9.69 I= 0.98	I N T P N= 619 %= 5.02 I= 1.35*	PERCEPTIVES
E S T P N= 430 %= 3.49 I= 1.32*	E S F P N= 585 %= 4.75 I= 0.79*	E N F P N=1141 %= 9.26 I= 0.75*	E N T P N= 578 %= 4.69 I= 1.23*	PERCEPTIVES EXTRAVERTS
E S T J N=1170 %= 9.50 I= 1.24*	E S F J N= 907 %= 7.36 I= 0.66*	E N F J N= 582 %= 4.72 I= 0.81*	E N T J N= 672 %= 5.45 I= 1.40*	JUDGING

	N	%	I
E	6065	49.22	0.92*
I	6257	50.78	1.09*
S	6405	51.98	0.99"
N	5917	48.02	1.02"
T	5763	46.77	1.34*
F	6559	53.23	0.82*
J	6590	53.48	1.01
P	5732	46.52	0.99
IJ	3259	26.45	1.08*
IP	2998	24.33	1.10*
EP	2734	22.19	0.89*
EJ	3331	27.03	0.95*
ST	3273	26.56	1.32*
SF	3132	25.42	0.78*
NF	3427	27.81	0.86*
NT	2490	20.21	1.37*
SJ	4205	34.13	0.96*
SP	2200	17.85	1.03"
NP	3532	28.66	0.96*
NJ	2385	19.36	1.11*
TJ	3632	29.48	1.34*
TP	2131	17.29	1.34*
FP	3601	29.22	0.86*
FJ	2958	24.01	0.77*
IN	2944	23.89	1.12*
EN	2973	24.13	0.93*
IS	3313	26.89	1.06*
ES	3092	25.09	0.91*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COLLEGE STUDENTS ON THE CAPT DATA BANK
BASE TOTAL N = 28065, SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

194.79	88.37	3.96	188.86
144.44	3.83	0.68	105.56
60.46	62.06	194.56	46.62
104.50	312.64	48.38	140.35

E	148.48	IJ	44.57	SJ	18.11	IN	84.51
I	148.48	IP	59.63	SP	5.50	EN	35.70
		EP	81.82	NP	12.05	IS	28.26
S	5.31	EJ	23.14	NJ	51.84	ES	60.21
N	5.31						
		ST	562.81	TJ	714.10		
T	******	SF	517.52	TP	371.50		
F	******	NF	215.53	FP	228.74		
		NT	510.69	FJ	502.77		
J	1.97						
P	1.97						

****** CHI SQUARE > 999.99

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE B-16

GROUP
TABULATED:

COLLEGE STUDENTS
IN CAPT DATA BANK

FEMALES

N=15743

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 816 %= 5.18 I= 0.73*	I S F J N=1751 %=11.12 I= 1.15*	I N F J N= 729 %= 4.63 I= 1.05"	I N T J N= 324 %= 2.06 I= 0.61*	JUDGING	INTROVERTS
I S T P N= 271 %= 1.72 I= 0.62*	I S F P N= 957 %= 6.08 I= 1.04"	I N F P N=1572 %= 9.99 I= 1.01	I N T P N= 423 %= 2.69 I= 0.72*	PERCEPTIVES	
E S T P N= 313 %= 1.99 I= 0.75*	E S F P N=1102 %= 7.00 I= 1.16*	E N F P N=2327 %=14.78 I= 1.20*	E N T P N= 491 %= 3.12 I= 0.82*		EXTRAVERTS
E S T J N= 980 %= 6.22 I= 0.81*	E S F J N=2211 %=14.04 I= 1.26*	E N F J N=1052 %= 6.68 I= 1.15*	E N T J N= 424 %= 2.69 I= 0.69*	JUDGING	

	N	%	I
E	8900	56.53	1.06*
I	6843	43.47	0.93*
S	8401	53.36	1.01"
N	7342	46.64	0.99"
T	4042	25.67	0.73*
F	11701	74.33	1.14*
J	8287	52.64	0.99
P	7456	47.36	1.01
IJ	3620	22.99	0.94*
IP	3223	20.47	0.92*
EP	4233	26.89	1.08*
EJ	4667	29.64	1.04*
ST	2380	15.12	0.75*
SF	6021	38.25	1.17*
NF	5680	36.08	1.11*
NT	1662	10.56	0.71*
SJ	5758	36.57	1.03*
SP	2643	16.79	0.97"
NP	4813	30.57	1.03*
NJ	2529	16.06	0.92*
TJ	2544	16.16	0.73*
TP	1498	9.52	0.74*
FP	5958	37.85	1.11*
FJ	5743	36.48	1.18*
IN	3048	19.36	0.91*
EN	4294	27.28	1.05*
IS	3795	24.11	0.95*
ES	4606	29.26	1.07*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COLLEGE STUDENTS ON THE CAPT DATA BANK
BASE TOTAL N = 28065. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

194.79	88.37	3.96	188.86
144.44	3.83	0.68	105.56
60.46	62.06	154.56	46.62
104.50	312.64	48.38	140.35

E	148.48	IJ	44.57	SJ	18.11	IN	84.51
I	148.48	IP	59.63	SP	5.50	EN	35.70
		EP	81.82	NP	12.05	IS	28.26
S	5.31	EJ	23.14	NJ	51.84	ES	60.21
N	5.31						
		ST	562.81	TJ	714.10		
T	******	SF	517.52	TP	371.50		
F	******	NF	215.53	FP	228.74		
		NT	510.69	FJ	502.77		
J	1.97						
P	1.97						

****** CHI SQUARE > 999.99

```
SOURCE OF DATA:                    GROUP                MBTI TYPE TABLE
                                 TABULATED:          CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                             OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS        GRADUATE STUDENTS
 HEW CONTRACT 231-76-0051       IN CAPT DATA BANK    LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT                             TOTAL CHOOSING THIS GROUP
                                                     WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                               I = SELFSELECTION INDEX:
                                                     RATIO OF PERCENT OF TYPE
                                    N= 8649          IN GROUP TO % IN SAMPLE.
 TABLE B-17

        SENSING TYPES                  INTUITIVE TYPES
WITH            WITH            WITH            WITH                            N      %      I
THINKING        FEELING         FEELING         THINKING
-----------------------------------------------------------------        E   4459  51.56  0.92*
| I S T J       | I S F J       | I N F J       | I N T J       |  J     I   4190  48.44  1.11*
|               |               |               |               |  U
|               |               |               |               |  D     S   3721  43.02  0.76*
| N= 719        | N= 707        | N= 500        | N= 464        |  G     N   4928  56.98  1.32*
|               |               |               |               |  I
| %= 8.31       | %= 8.17       | %= 5.78       | %= 5.36       |  N I   T   3530  40.81  1.16*
|               |               |               |               |  G N   F   5119  59.19  0.91*
| I= 1.35*      | I= 1.11       | I= 1.92*      | I= 2.35*      |    T
|               |               |               |               |    R   J   4973  57.50  1.32*
-----------------------------------------------------------------    O   P   3676  42.50  0.75*
| I S T P       | I S F P       | I N F P       | I N T P       |    V
|               |               |               |               |    E   IJ  2390  27.63  1.47*
|               |               |               |               |    R   IP  1800  20.81  0.83*
| N= 186        | N= 283        | N= 929        | N= 402        |    T
|               |               |               |               |    S   EP  1876  21.69  0.69*
| %= 2.15       | %= 3.27       | %=10.74       | %= 4.65       |  P     EJ  2583  29.86  1.21*
|               |               |               |               |  E
| I= 0.55*      | I= 0.42*      | I= 1.15#      | I= 1.16       |  R     ST  1761  20.36  0.95
|               |               |               |               |  C     SF  1960  22.66  0.64*
-----------------------------------------------------------------  E
| E S T P       | E S F P       | E N F P       | E N T P       |  P     NF  3159  36.52  1.24*
|               |               |               |               |  T     NT  1769  20.45  1.50*
|               |               |               |               |  I
| N= 150        | N= 275        | N=1074        | N= 377        |  V     SJ  2827  32.69  1.05
|               |               |               |               |  E     SP   894  10.34  0.40*
| %= 1.73       | %= 3.18       | %=12.42       | %= 4.36       |  S E
|               |               |               |               |    X   NP  2782  32.17  1.04
| I= 0.39*      | I= 0.33*      | I= 0.96       | I= 0.96       |    T   NJ  2146  24.81  2.03*
|               |               |               |               |    R
-----------------------------------------------------------------    A   TJ  2415  27.92  1.53*
| E S T J       | E S F J       | E N F J       | E N T J       |  J V   TP  1115  12.89  0.76*
|               |               |               |               |  U E
|               |               |               |               |  D R   FP  2561  29.61  0.75*
| N= 706        | N= 695        | N= 656        | N= 526        |  G T   FJ  2558  29.58  1.17*
|               |               |               |               |  I S
| %= 8.16       | %= 8.04       | %= 7.58       | %= 6.08       |  N     IN  2295  26.53  1.42*
|               |               |               |               |  G     EN  2633  30.44  1.25*
| I= 1.16#      | I= 0.75*      | I= 1.81*      | I= 2.20*      |
|               |               |               |               |        IS  1895  21.91  0.87*
-----------------------------------------------------------------        ES  1826  21.11  0.66*

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   HIGH SCHOOL JUNIORS AND SENIORS IN THE CAPT DATA BANK
   BASE TOTAL N =  6738. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

       TYPE TABLE ORDER             E  33.54    IJ 164.13    SJ   3.48    IN 131.91
                                    I  33.54    IP  37.54    SP 630.99    EN  69.63
 26.12     3.74    66.57   93.15                EP 189.78    NP   3.29    IS  21.32
                                    S 294.41    EJ  49.75    NJ 383.98    ES 229.18
 40.46   151.31     8.05    3.55    N 294.41
                                                ST   2.93    TJ 196.46
 95.98   282.37     0.74    0.30    T  52.33    SF 306.43    TP  47.75
                                    F  52.33    NF  85.67    FP 169.32
  6.62    33.21    76.46   94.66                NT 123.11    FJ  34.99
                                    J 296.46
                                    P 296.46
```

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SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE B-18

GROUP
TABULATED:

GRADUATE STUDENTS
IN CAPT DATA BANK

MALES

N= 4731

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX:
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

SENSING TYPES		INTUITIVE TYPES			
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING		
I S T J N= 465 %= 9.83 I= 1.18*	I S F J N= 322 %= 6.81 I= 0.83*	I N F J N= 247 %= 5.22 I= 0.90"	I N T J N= 298 %= 6.30 I= 1.17*	JUDGING	INTROVERTS
I S T P N= 127 %= 2.68 I= 1.25*	I S F P N= 142 %= 3.00 I= 0.92	I N F P N= 502 %=10.61 I= 0.99	I N T P N= 256 %= 5.41 I= 1.16*	PERCEPTIVES	
E S T P N= 91 %= 1.92 I= 1.11	E S F P N= 143 %= 3.02 I= 0.95	E N F P N= 450 %= 9.51 I= 0.77*	E N T P N= 215 %= 4.54 I= 1.04		EXTRAVERTS
E S T J N= 486 %=10.27 I= 1.26*	E S F J N= 340 %= 7.19 I= 0.89#	E N F J N= 319 %= 6.74 I= 0.89#	E N T J N= 328 %= 6.93 I= 1.14*	JUDGING	

	N	%	I
E	2372	50.14	0.97#
I	2359	49.86	1.03#
S	2116	44.73	1.04*
N	2615	55.27	0.97*
T	2266	47.90	1.17*
F	2465	52.10	0.88*
J	2805	59.29	1.03*
P	1926	40.71	0.96*
IJ	1332	28.15	1.02
IP	1027	21.71	1.04"
EP	899	19.00	0.88*
EJ	1473	31.14	1.04#
ST	1169	24.71	1.21*
SF	947	20.02	0.88*
NF	1518	32.09	0.88*
NT	1097	23.19	1.13*
SJ	1613	34.09	1.04#
SP	503	10.63	1.03
NP	1423	30.08	0.94*
NJ	1192	25.20	1.02
TJ	1577	33.33	1.19*
TP	689	14.56	1.13*
FP	1237	26.15	0.88*
FJ	1228	25.96	0.88*
IN	1303	27.54	1.04"
EN	1312	27.73	0.91*
IS	1056	22.32	1.02
ES	1060	22.41	1.06#

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
GRADUATE STUDENTS ON THE CAPT DATA BANK
BASE TOTAL N = 8649. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

31.48	26.04	6.02	17.95
14.15	2.42	0.18	13.73
2.19	0.84	81.09	0.86
62.02	10.19	10.56	13.25

E	8.40	IJ	1.42	SJ	9.42	IN	5.43
I	8.40	IP	5.09	SP	0.98	EN	36.24
		EP	44.43	NP	20.85	IS	1.03
S	12.37	EJ	8.05	NJ	0.82	ES	10.49
N	12.37						
		ST	121.80	TJ	151.94		
T	216.89	SF	41.68	TP	25.99		
F	216.89	NF	88.73	FP	60.11		
		NT	47.99	FJ	65.68		
J	13.72						
P	13.72						

```
SOURCE OF DATA:                      GROUP                      MBTI TYPE TABLE
                                   TABULATED:                 CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                      OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS          GRADUATE STUDENTS
 HEW CONTRACT 231-76-0051         IN CAPT DATA BANK          LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT                                      TOTAL CHOOSING THIS GROUP
                                      FEMALES                 WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                        I = SELFSELECTION INDEX;
                                                              RATIO OF PERCENT OF TYPE
                                      N= 3918                 IN GROUP TO % IN SAMPLE.
 TABLE B-19

     SENSING TYPES                 INTUITIVE TYPES
 WITH          WITH           WITH          WITH                        N       %       I
 THINKING      FEELING        FEELING       THINKING
 --------------------------------------------------------        E   2087  53.27   1.03#
| I S T J    | I S F J     | I N F J     | I N T J    | J        I   1831  46.73   0.96#
|            |             |             |            | U
|            |             |             |            | D        S   1605  40.96   0.95*
| N= 254     | N= 365      | N= 253      | N= 166     | G        N   2313  59.04   1.04*
|            |             |             |            | I
| %= 6.48    | %= 9.83     | %= 6.46     | %= 4.24    | N I      T   1264  32.26   0.79*
|            |             |             |            | G N      F   2654  67.74   1.14*
| I= 0.78*   | I= 1.20*    | I= 1.12"    | I= 0.79*   |   T
|            |             |             |            |   R      J   2168  55.33   0.96*
 --------------------------------------------------------   O      P   1750  44.67   1.05*
| I S T P    | I S F P     | I N F P     | I N T P    |   V
|            |             |             |            |   E      IJ  1058  27.00   0.98
|            |             |             |            |   R      IP   773  19.73   0.95"
| N= 59      | N= 141      | N= 427      | N= 146     |   T
|            |             |             |            |   S      EP   977  24.94   1.15*
| %= 1.51    | %= 3.60     | %=10.90     | %= 3.73    | P        EJ  1110  28.33   0.95#
|            |             |             |            | E
| I= 0.70*   | I= 1.10     | I= 1.01     | I= 0.80*   | R        ST   592  15.11   0.74*
|            |             |             |            | C        SF  1013  25.85   1.14*
 --------------------------------------------------------   E
| E S T P    | E S F P     | E N F P     | E N T P    | P        NF  1641  41.88   1.15*
|            |             |             |            | T        NT   672  17.15   0.84*
|            |             |             |            | I
| N= 59      | N= 132      | N= 624      | N= 162     | V        SJ  1214  30.99   0.95#
|            |             |             |            | E        SP   391   9.98   0.97
| %= 1.51    | %= 3.37     | %=15.93     | %= 4.13    | S E
|            |             |             |            |   X      NP  1359  34.69   1.08*
| I= 0.87    | I= 1.06     | I= 1.28*    | I= 0.95    |   T      NJ   954  24.35   0.98
|            |             |             |            |   R
 --------------------------------------------------------   A      TJ   838  21.39   0.77*
| E S T J    | E S F J     | E N F J     | E N T J    | J V      TP   426  10.87   0.84*
|            |             |             |            | U E
|            |             |             |            | D R      FP  1324  33.79   1.14*
| N= 220     | N= 355      | N= 337      | N= 198     | G T      FJ  1330  33.95   1.15*
|            |             |             |            | I S
| %= 5.62    | %= 9.06     | %= 8.60     | %= 5.05    | N        IN   992  25.32   0.95"
|            |             |             |            | G        EN  1321  33.72   1.11*
| I= 0.59*   | I= 1.13#    | I= 1.13#    | I= 0.83*   |
|            |             |             |            |          IS   839  21.41   0.98
 --------------------------------------------------------          ES   766  19.55   0.93#

  NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
       "   IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
       #   IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
       *   IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
  (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

  BASE POPULATION USED IN CALCULATING SELECTION RATIO:
  GRADUATE STUDENTS ON THE CAPT DATA BANK
  BASE TOTAL N =  8649. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER                E    8.40   IJ    1.42   SJ    9.42   IN    5.43
                                        I    8.40   IP    5.09   SP    0.98   EN   36.24
 31.48    26.04     6.02    17.95                   EP   44.43   NP   20.85   IS    1.03
                                        S   12.37   EJ    8.05   NJ    0.82   ES   10.49
 14.15     2.42     0.18    13.73       N   12.37
                                                    ST  121.80   TJ  151.94
  2.19     0.84    81.09     0.86       T  216.89   SF   41.68   TP   25.99
                                        F  216.89   NF   88.73   FP   60.11
 62.02    10.19    10.56    13.25                   NT   47.99   FJ   65.68
                                        J   13.72
                                        P   13.72
```

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SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE B-20

GROUP
TABULATED:

COLLEGE AND GRADUATE
STUDENTS
IN CAPT DATA BANK

N=36714

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE. I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	 WITH FEELING	INTUITIVE TYPES WITH FEELING	 WITH THINKING	
I S T J N=2704 %= 7.37 I= 1.20*	I S F J N=3417 %= 9.31 I= 1.27*	I N F J N=1739 %= 4.74 I= 1.57*	I N T J N=1409 %= 3.84 I= 1.68*	JUDGING INTROVERTS
I S T P N= 961 %= 2.62 I= 0.67*	I S F P N=1921 %= 5.23 I= 0.68*	I N F P N=3695 %=10.06 I= 1.08	I N T P N=1444 %= 3.93 I= 0.98	PERCEPTIVES
E S T P N= 893 %= 2.43 I= 0.55*	E S F P N=1962 %= 5.34 I= 0.55*	E N F P N=4542 %=12.37 I= 0.96	E N T P N=1446 %= 3.94 I= 0.87"	PERCEPTIVES EXTRAVERTS
E S T J N=2856 %= 7.78 I= 1.10"	E S F J N=3813 %=10.39 I= 0.97	E N F J N=2290 %= 6.24 I= 1.49*	E N T J N=1622 %= 4.42 I= 1.60*	JUDGING

	N	%	I
E	19424	52.91	0.94*
I	17290	47.09	1.08*
S	18527	50.46	0.89*
N	18187	49.54	1.15*
T	13335	36.32	1.03
F	23379	63.68	0.98
J	19850	54.07	1.24*
P	16864	45.93	0.81*
IJ	9269	25.25	1.34*
IP	8021	21.85	0.87*
EP	8843	24.09	0.76*
EJ	10581	28.82	1.16*
ST	7414	20.19	0.94"
SF	11113	30.27	0.85*
NF	12266	33.41	1.14*
NT	5921	16.13	1.19*
SJ	12790	34.84	1.11*
SP	5737	15.63	0.61*
NP	11127	30.31	0.98
NJ	7060	19.23	1.57*
TJ	8591	23.40	1.28*
TP	4744	12.92	0.77*
FP	12120	33.01	0.83*
FJ	11259	30.67	1.21*
IN	8287	22.57	1.21*
EN	9900	26.97	1.11*
IS	9003	24.52	0.98
ES	9524	25.94	0.81*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
HIGH SCHOOL JUNIORS AND SENIORS IN THE CAPT DATA BANK
BASE TOTAL N = 6738, SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

12.74	27.13	39.63	39.56
33.61	66.31	3.24	0.12
83.41	189.00	1.36	5.35
4.28	0.79	43.06	39.22

E	25.55	IJ	129.86	SJ	32.14	IN	50.56
I	25.55	IP	32.17	SP	405.13	EN	19.67
S	96.22	EP	166.20	NP	0.64	IS	0.96
N	96.22	EJ	46.81	NJ	187.05	ES	102.17
T	3.68	ST	5.89	TJ	86.66		
F	3.68	SF	71.91	TP	75.46		
J	254.17	NF	40.91	FP	110.93		
P	254.17	NT	27.22	FJ	79.08		

```
SOURCE OF DATA:                         GROUP                     MBTI TYPE TABLE
                                      TABULATED:              CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                       OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS        COLLEGE AND GRADUATE
 HEW CONTRACT 231-76-0051             STUDENTS                LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT          IN CAPT DATA BANK           TOTAL CHOOSING THIS GROUP
                                        MALES                 WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                        I = SELFSELECTION INDEX;
                                                              RATIO OF PERCENT OF TYPE
                                       N=17053                IN GROUP TO % IN SAMPLE.
 TABLE B-21

      SENSING TYPES               INTUITIVE TYPES
 WITH         WITH         WITH         WITH                                N      %       I
 THINKING     FEELING      FEELING      THINKING
 ------------------------------------------------------              E    8437  49.48   0.94*
 | I S T J   | I S F J   | I N F J   | I N T J   |  J                 I    8616  50.52   1.07*
 |           |           |           |           |  U
 |           |           |           |           |  D                 S    8521  49.97   0.99
 | N=1634    | N=1281    | N= 757    | N= 919    |  G                 N    8532  50.03   1.01
 |           |           |           |           |  I
 | %= 9.58   | %= 7.51   | %= 4.44   | %= 5.39   |  N I               T    8029  47.08   1.30*
 |           |           |           |           |  G N               F    9024  52.92   0.83*
 | I= 1.30*  | I= 0.81*  | I= 0.94"  | I= 1.40*  |    T
 |           |           |           |           |    R               J    9395  55.09   1.02*
 ------------------------------------------------------ O               P    7658  44.91   0.98*
 | I S T P   | I S F P   | I N F P   | I N T P   |    V
 |           |           |           |           |    E               IJ   4591  26.92   1.07*
 |           |           |           |           |    R               IP   4025  23.60   1.08*
 | N= 631    | N= 823    | N=1696    | N= 875    |    T
 |           |           |           |           |    S               EP   3633  21.30   0.88*
 | %= 3.70   | %= 4.83   | %= 9.95   | %= 5.13   |  P                 EJ   4804  28.17   0.98"
 |           |           |           |           |  E
 | I= 1.41*  | I= 0.92#  | I= 0.99   | I= 1.30*  |  R                 ST   4442  26.05   1.29*
 |           |           |           |           |  C                 SF   4079  23.92   0.79*
 ------------------------------------------------------ E
 | E S T P   | E S F P   | E N F P   | E N T P   |  P                 NF   4945  29.00   0.87*
 |           |           |           |           |  T                 NT   3587  21.03   1.30*
 |           |           |           |           |  I
 | N= 521    | N= 728    | N=1591    | N= 793    |  V                 SJ   5818  34.12   0.98#
 |           |           |           |           |  E                 SP   2703  15.85   1.01
 | %= 3.06   | %= 4.27   | %= 9.33   | %= 4.65   |  S E
 |           |           |           |           |    X               NP   4955  29.06   0.96*
 | I= 1.26*  | I= 0.80*  | I= 0.75*  | I= 1.18*  |    T               NJ   3577  20.98   1.09*
 |           |           |           |           |    R
 ------------------------------------------------------ A               TJ   5209  30.55   1.31*
 | E S T J   | E S F J   | E N F J   | E N T J   |  J V               TP   2820  16.54   1.28*
 |           |           |           |           |  U E
 |           |           |           |           |  D R               FP   4838  28.37   0.86*
 | N=1656    | N=1247    | N= 901    | N=1000    |  G T               FJ   4186  24.55   0.80*
 |           |           |           |           |  I S
 | %= 9.71   | %= 7.31   | %= 5.28   | %= 5.86   |  N                 IN   4247  24.90   1.10*
 |           |           |           |           |  G                 EN   4285  25.13   0.93*
 | I= 1.25*  | I= 0.70*  | I= 0.85*  | I= 1.33*  |
 |           |           |           |           |                    IS   4369  25.62   1.04*
 ------------------------------------------------------                 ES   4152  24.35   0.94*

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
         #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
         *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COLLEGE AND GRADUATE STUDENTS IN THE CAPT DATA BANK
   BASE TOTAL N = 36714. SAMPLE AND BASE ARE DEPENDENT.

  * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

           TYPE TABLE ORDER             E 150.46    IJ  47.36   SJ    7.27   IN  99.17
                                        I 150.46    IP  57.48   SP    1.22   EN  54.60
 229.38   121.58     6.25   207.65                  EP 134.79   NP   23.59   IS  20.75
                                        S   3.12    EJ   6.54   NJ   62.51   ES  42.09
 146.44    10.60     0.50   120.95      N   3.12
                                                    ST 677.20   TJ 907.25
  52.06    72.74   271.74    42.63      T ******    SF 608.26   TP 369.88
                                        F ******    NF 278.59   FP 310.23
 165.66   323.14    49.54   157.71                  NT 566.87   FJ 560.90
                                        J  13.51
                                        P  13.51    ******CHI SQUARE > 999.99
```

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SOURCE OF DATA:                        GROUP                    MBTI TYPE TABLE
                                     TABULATED:             CENTER FOR APPLICATIONS
  MARY H. MCCAULLEY, PH.D.                                   OF PSYCHOLOGICAL TYPE
   AND OTHER CONTRIBUTORS         COLLEGE AND GRADUATE
  HEW CONTRACT 231-76-0051              STUDENTS            LEGEND: % = PERCENT OF
   AMSA FOUNDATION - CAPT        IN CAPT DATA BANK          TOTAL CHOOSING THIS GROUP
                                        FEMALES             WHO FALL INTO THIS TYPE.
  TABLE CREATED 7/31/77                                     I = SELFSELECTION INDEX;
                                                            RATIO OF PERCENT OF TYPE
                                       N=19661              IN GROUP TO % IN SAMPLE.
  TABLE B-22

      SENSING TYPES               INTUITIVE TYPES
  WITH          WITH          WITH          WITH                          N       %       I
  THINKING      FEELING       FEELING       THINKING
 -----------------------------------------------------            E   10987  55.88   1.06*
 | I S T J    | I S F J    | I N F J    | I N T J    |  J         I    8674  44.12   0.94*
 |            |            |            |            |  U
 | N=1070     | N=2136     | N= 982     | N= 490     |  D         S   10006  50.89   1.01
 |            |            |            |            |  G         N    9655  49.11   0.99
 | %= 5.44    | %=10.86    | %= 4.99    | %= 2.49    |  I
 |            |            |            |            |  N  I      T    5306  26.99   0.74*
 | I= 0.74*   | I= 1.17*   | I= 1.05"   | I= 0.65*   |  G  N      F   14355  73.01   1.15*
 |            |            |            |            |     T
 -----------------------------------------------------     R      J   10455  53.18   0.98*
 | I S T P    | I S F P    | I N F P    | I N T P    |     O      P    9206  46.82   1.02*
 |            |            |            |            |     V
 |            |            |            |            |     E      IJ   4678  23.79   0.94*
 | N= 330     | N=1058     | N=1999     | N= 569     |     R      IP   3996  20.32   0.93*
 |            |            |            |            |     T
 | %= 1.68    | %= 5.58    | %=10.17    | %= 2.89    |  P  S      EP   5210  26.50   1.10*
 |            |            |            |            |  E         EJ   5777  29.38   1.02"
 | I= 0.64*   | I= 1.07#   | I= 1.01    | I= 0.74*   |  R
 |            |            |            |            |  C         ST   2972  15.12   0.75*
 -----------------------------------------------------  E         SF   7034  35.78   1.18*
 | E S T P    | E S F P    | E N F P    | E N T P    |  P
 |            |            |            |            |  T         NF   7321  37.24   1.11*
 |            |            |            |            |  I         NT   2334  11.87   0.74*
 | N= 372     | N=1234     | N=2951     | N= 653     |  V
 |            |            |            |            |  E         SJ   6972  35.46   1.02#
 | %= 1.89    | %= 6.28    | %=15.01    | %= 3.32    |  S  E      SP   3034  15.43   0.99
 |            |            |            |            |     X
 | I= 0.78*   | I= 1.17*   | I= 1.21*   | I= 0.84*   |     T      NP   6172  31.39   1.04*
 |            |            |            |            |     R      NJ   3483  17.72   0.92*
 -----------------------------------------------------     A
 | E S T J    | E S F J    | E N F J    | E N T J    |  J  V      TJ   3382  17.20   0.74*
 |            |            |            |            |  U  E      TP   1924   9.79   0.76*
 |            |            |            |            |  D  R
 | N=1200     | N=2566     | N=1389     | N= 622     |  G  T      FP   7282  37.04   1.12*
 |            |            |            |            |  I  S      FJ   7073  35.97   1.17*
 | %= 6.10    | %=13.05    | %= 7.06    | %= 3.16    |  N
 |            |            |            |            |  G         IN   4040  20.55   0.91*
 | I= 0.78*   | I= 1.26*   | I= 1.13*   | I= 0.72*   |            EN   5615  28.56   1.06*
 |            |            |            |            |
 -----------------------------------------------------            IS   4634  23.57   0.96*
                                                                  ES   5372  27.32   1.05*

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. >  3.8;
         #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. >  6.6;
         *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COLLEGE AND GRADUATE STUDENTS IN THE CAPT DATA BANK
   BASE TOTAL N = 36714. SAMPLE AND BASE ARE DEPENDENT.

  * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

          TYPE TABLE ORDER           E 150.46    IJ  47.36   SJ    7.27    IN  99.17
                                     I 150.46    IP  57.48   SP    1.22    EN  54.60
 229.38   121.58     6.25  207.65                EP 134.79   NP   23.59    IS  20.75
                                     S   3.12    EJ   6.54   NJ   62.51    ES  42.09
 146.44    10.60     0.50  120.95    N   3.12
                                                 ST 677.20   TJ 907.25
  52.06    72.74   271.74   42.63    T ******    SF 608.26   TP 369.88
                                     F ******    NF 278.59   FP 310.23
 165.66   323.14    49.54  157.71                NT 566.87   FJ 560.90
                                     J  13.51
                                     P  13.51    ****** CHI SQUARE > 999.99
```

Appendix C

Medicine

Table Number	Name of Group Tabulated	Number in Group	Compared to Base
C 1	All Students and Practitioners	8,225	32,271
C 2	Pre-Medical Students	362	6,738
C 3	Medical Students	5,982	6,738
C 4	Medical Students	5,982	5,355
C 5	Medical Students: Males[a]	2,450	3,907
C 6	Medical Students: Females[a]	574	2,831
C 7	Physicians	1,881	8,225
C 8	Physicians for Whom Sex is Known	900	1,881
C 9	Physicians: Males	777	900
C 10	Physicians: Females	123	900
C 11	Myers Longitudinal Medical Study: Total Sample[b]	5,355	9,320
C 12	Myers Longitudinal Medical Study: Males[c]	5,057	4,933
C 13	Myers Longitudinal Medical Study: Females[c]	298	4,387
C 14	Medical Students Tested 5-1-77 through 12-31-77[d]	1,227	-
C 15	Medical Students: Composite to 12-31-77[d]	7,190	-

[a] Sex is known for 3024 of the 5982 in the Medical Student sample.

[b] The Myers' data are not included in the 8,225 of the composite sample above. Complete set of tables appears in Monograph II.

[c] Students in the Myers study are compared to Myers' data on high school students tested at approximately the same time.

[d] Tables 14 and 15 bring the figures in the monograph up to the end of 1977, by adding the students in cases processed by CAPT from 5-1-77, when the data bank was closed, up to the end of the year.

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE C-1

GROUP
TABULATED:

COMPOSITE OF
STUDENTS AND
PRACTITIONERS IN
MEDICINE

N= 8225

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

SENSING TYPES		INTUITIVE TYPES			
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING		
I S T J N= 783 %= 9.52 I= 1.14*	I S F J N= 660 %= 8.02 I= 0.76*	I N F J N= 618 %= 7.51 I= 1.40*	I N T J N= 561 %= 6.82 I= 1.68*	JUDGING	INTROVERTS
I S T P N= 197 %= 2.40 I= 1.02	I S F P N= 232 %= 2.82 I= 0.62*	I N F P N= 818 %= 9.95 I= 1.14*	I N T P N= 486 %= 5.91 I= 1.60*	PERCEPTIVES	
E S T P N= 140 %= 1.70 I= 0.89	E S F P N= 211 %= 2.57 I= 0.56*	E N F P N= 830 %=10.09 I= 0.89*	E N T P N= 342 %= 4.16 I= 1.15#		EXTRAVERTS
E S T J N= 597 %= 7.26 I= 0.94	E S F J N= 562 %= 6.83 I= 0.60*	E N F J N= 645 %= 7.84 I= 1.08"	E N T J N= 543 %= 6.60 I= 1.44*	JUDGING	

	N	%	I
E	3870	47.05	0.90*
I	4355	52.95	1.11*
S	3382	41.12	0.80*
N	4843	58.88	1.21*
T	3649	44.36	1.22*
F	4576	55.64	0.87*
J	4969	60.41	1.02#
P	3256	39.59	0.97#
IJ	2622	31.88	1.13*
IP	1733	21.07	1.09*
EP	1523	18.52	0.86*
EJ	2347	28.53	0.92*
ST	1717	20.88	1.03
SF	1665	20.24	0.65*
NF	2911	35.39	1.08*
NT	1932	23.49	1.47*
SJ	2602	31.64	0.83*
SP	780	9.48	0.71*
NP	2476	30.10	1.10*
NJ	2367	28.78	1.35*
TJ	2484	30.20	1.22*
TP	1165	14.16	1.22*
FP	2091	25.42	0.87*
FJ	2485	30.21	0.88*
IN	2483	30.19	1.38*
EN	2360	28.69	1.07*
IS	1872	22.76	0.88*
ES	1510	18.36	0.72*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS & PRACTITIONERS IN ALL HEALTH AND HEALTH RELATED FIELDS.
BASE TOTAL N = 32271. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

19.47	73.05	102.22	215.47
0.13	76.83	19.94	152.26
2.74	105.27	16.60	9.07
3.64	221.13	5.73	102.87

E	125.12	IJ	70.12	SJ	186.24	IN	449.55
I	125.12	IP	21.11	SP	148.30	EN	20.68
		EP	57.26	NP	41.15	IS	52.68
S	464.76	EJ	28.79	NJ	374.38	ES	303.34
N	464.76						
		ST	1.79	TJ	176.31		
T	308.58	SF	598.37	TP	72.18		
F	308.58	NF	37.35	FP	77.74		
		NT	466.30	FJ	87.22		
J	6.92						
P	6.92						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

PRE-MEDICAL STUDENTS

N= 362

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE C-2

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 25 %= 6.91 I= 1.12	I S F J N= 26 %= 7.18 I= 0.98	I N F J N= 25 %= 6.91 I= 2.29*	I N T J N= 21 %= 5.80 I= 2.54*	JUDGING / INTROVERTS
I S T P N= 2 %= 0.55 I= 0.14_	I S F P N= 10 %= 2.76 I= 0.36*	I N F P N= 22 %= 6.08 I= 0.65"	I N T P N= 13 %= 3.59 I= 0.89	PERCEPTIVES / INTROVERTS
E S T P N= 7 %= 1.93 I= 0.44"	E S F P N= 7 %= 1.93 I= 0.20*	E N F P N= 45 %=12.43 I= 0.96	E N T P N= 10 %= 2.76 I= 0.61	PERCEPTIVES / EXTRAVERTS
E S T J N= 44 %=12.15 I= 1.72*	E S F J N= 38 %=10.50 I= 0.98	E N F J N= 32 %= 8.84 I= 2.11*	E N T J N= 35 %= 9.67 I= 3.50*	JUDGING / EXTRAVERTS

	N	%	I
E	218	60.22	1.07
I	144	39.78	0.91
S	159	43.92	0.77*
N	203	56.08	1.30*
T	157	43.37	1.24#
F	205	56.63	0.87#
J	246	67.96	1.56*
P	116	32.04	0.57*
IJ	97	26.80	1.43*
IP	47	12.98	0.52*
EP	69	19.06	0.60*
EJ	149	41.16	1.66*
ST	78	21.55	1.00
SF	81	22.38	0.63*
NF	124	34.25	1.16"
NT	79	21.82	1.60*
SJ	133	36.74	1.17"
SP	26	7.18	0.28*
NP	90	24.86	0.81"
NJ	113	31.22	2.55*
TJ	125	34.53	1.89*
TP	32	8.84	0.52*
FP	84	23.20	0.59*
FJ	121	33.43	1.32"
IN	81	22.38	1.20
EN	122	33.70	1.38*
IS	63	17.40	0.69*
ES	96	26.52	0.83"

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
BASE TOTAL N = 6738. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.34	0.01	16.75	17.66
0.00	12.21	4.41	0.17
5.13	24.46	0.06	2.56
13.21	0.02	17.61	54.36

E	2.21	IJ	14.26	SJ	4.76	IN	3.08
I	2.21	IP	26.82	SP	63.19	EN	16.02
		EP	24.94	NP	5.71	IS	10.89
S	23.74	EJ	48.66	NJ	107.84	ES	4.57
N	23.74						
		ST	0.00	TJ	59.07		
T	10.26	SF	25.96	TP	16.08		
F	10.26	NF	3.83	FP	39.02		
		NT	19.22	FJ	11.96		
J	83.00						
P	83.00						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

MEDICAL STUDENTS

N= 5982

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE C-3

SENSING TYPES		INTUITIVE TYPES		
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING	
I S T J N= 491 %= 8.21 I= 1.34*	I S F J N= 448 %= 7.49 I= 1.02	I N F J N= 441 %= 7.37 I= 2.45*	I N T J N= 409 %= 6.84 I= 2.99*	JUDGING INTROVERTS
I S T P N= 141 %= 2.36 I= 0.61*	I S F P N= 177 %= 2.96 I= 0.38*	I N F P N= 624 %=10.43 I= 1.12"	I N T P N= 380 %= 6.35 I= 1.58*	PERCEPTIVES
E S T P N= 102 %= 1.71 I= 0.39*	E S F P N= 169 %= 2.83 I= 0.29*	E N F P N= 637 %=10.65 I= 0.83*	E N T P N= 270 %= 4.51 I= 0.99	PERCEPTIVES EXTRAVERTS
E S T J N= 405 %= 6.77 I= 0.96	E S F J N= 409 %= 6.82 I= 0.63*	E N F J N= 494 %= 8.26 I= 1.97*	E N T J N= 386 %= 6.45 I= 2.34*	JUDGING

	N	%	I
E	2871	47.99	0.85*
I	3111	52.01	1.19*
S	2341	39.13	0.69*
N	3641	60.87	1.41*
T	2584	43.20	1.23*
F	3398	56.80	0.88*
J	3482	58.21	1.34*
P	2500	41.79	0.74*
IJ	1789	29.91	1.59*
IP	1322	22.10	0.88*
EP	1178	19.69	0.62*
EJ	1693	28.30	1.14*
ST	1139	19.04	0.89*
SF	1202	20.09	0.57*
NF	2196	36.71	1.25*
NT	1445	24.16	1.77*
SJ	1752	29.29	0.94"
SP	589	9.85	0.38*
NP	1911	31.95	1.04
NJ	1730	28.92	2.36*
TJ	1691	28.27	1.55*
TP	893	14.93	0.89#
FP	1607	26.86	0.68*
FJ	1791	29.94	1.18*
IN	1854	30.99	1.66*
EN	1787	29.87	1.23*
IS	1257	21.01	0.84*
ES	1084	18.12	0.57*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
BASE TOTAL N = 6738. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

20.42	0.11	125.29	155.19
24.22	138.54	4.17	35.44
76.18	246.35	15.15	0.01
0.38	60.20	91.76	100.59

E	86.55	IJ	215.24	SJ	5.89	IN	260.38		
I	86.55	IP	14.55	SP	533.42	EN	48.75		
S	403.12	EP	230.21	NP	1.95	IS	29.47		
N	403.12	EJ	20.68	NJ	548.98	ES	316.46		
T	87.40	ST	11.74	TJ	180.18				
F	87.40	SF	369.73	TP	8.82				
J	273.68	NF	76.13	FP	231.24				
P	273.68	NT	233.09	FJ	34.62				

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE C-4

GROUP
TABULATED:

MEDICAL STUDENTS

N= 5982

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE. I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

SENSING TYPES		INTUITIVE TYPES		
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING	
ISTJ N= 491 %= 8.21 I= 1.37*	ISFJ N= 448 %= 7.49 I= 1.63*	INFJ N= 441 %= 7.37 I= 1.89*	INTJ N= 409 %= 6.84 I= 1.08	JUDGING INTROVERTS
ISTP N= 141 %= 2.36 I= 0.41*	ISFP N= 177 %= 2.96 I= 0.60*	INFP N= 624 %=10.43 I= 1.44*	INTP N= 380 %= 6.35 I= 0.65*	PERCEPTIVES
ESTP N= 102 %= 1.71 I= 0.33*	ESFP N= 169 %= 2.83 I= 0.50*	ENFP N= 637 %=10.65 I= 1.33*	ENTP N= 270 %= 4.51 I= 0.67*	EXTRAVERTS
ESTJ N= 405 %= 6.77 I= 0.85"	ESFJ N= 408 %= 6.82 I= 1.01	ENFJ N= 494 %= 8.26 I= 1.66*	ENTJ N= 386 %= 6.45 I= 1.05	JUDGING

	N	%	I
E	2871	47.99	0.93*
I	3111	52.01	1.07*
S	2341	39.13	0.83*
N	3541	50.87	1.15*
T	2584	43.20	0.80*
F	3398	56.80	1.23*
J	3482	58.21	1.25*
P	2500	41.79	0.78*
IJ	1789	29.91	1.44*
IP	1322	22.10	0.79*
EP	1178	19.69	0.77*
EJ	1693	28.30	1.10#
ST	1139	19.04	0.76*
SF	1202	20.09	0.92"
NF	2196	36.71	1.52*
NT	1445	24.16	0.83*
SJ	1752	29.29	1.16*
SP	589	9.85	0.46*
NP	1911	31.95	1.00
NJ	1730	28.92	1.36*
TJ	1691	28.27	1.07"
TP	893	14.93	0.54*
FP	1607	26.86	1.04
FJ	1791	29.94	1.48*
IN	1854	30.99	1.14*
EN	1787	29.87	1.16*
IS	1257	21.01	0.98
ES	1084	18.12	0.71*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
MYERS' LONGITUDINAL MEDICAL STUDY TOTAL SAMPLE
BASE TOTAL N = 5355. SAMPLE AND BASE ARE INDEPENDENT.

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* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER              E  12.90    IJ 122.39   SJ  22.55   IN  18.99
                                      I  12.90    IP  49.34   SP 298.29   EN  22.54
  20.82    41.22    62.92     1.18                EP  55.94   NP   0.03   IS   0.21
                                      S  69.11    EJ   8.89   NJ  86.15   ES  91.04
  87.89    30.36    34.83    44.93    N  69.11
                                                  ST  58.50   TJ   4.73
 106.01    54.95    23.07    27.09    T 131.30    SF   5.48   TP 271.45
                                      F 131.30    NF 209.38   FP   1.51
   6.20     0.04    48.92     0.51                NT  33.85   FJ 142.09
                                      J 151.98
                                      P 151.98
```

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SOURCE OF DATA:                        GROUP                  MBTI TYPE TABLE
                                     TABULATED:           CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                  OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS            MEDICAL STUDENTS
 NEW CONTRACT 231-76-0051                MALES            LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT                                  TOTAL CHOOSING THIS GROUP
                                                          WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                    I = SELFSELECTION INDEX;
                                                          RATIO OF PERCENT OF TYPE
                                         N= 2450          IN GROUP TO % IN SAMPLE.
 TABLE C-5

       SENSING TYPES                 INTUITIVE TYPES
 WITH           WITH           WITH           WITH                                N       %       I
 THINKING       FEELING        FEELING        THINKING
 -----------------------------------------------------------               E    1138  46.45   0.89*
| I S T J      | I S F J      | I N F J      | I N T J      | J            I    1312  53.55   1.12*
|              |              |              |              | U
|              |              |              |              | D            S     962  39.27   0.68*
| N= 225       | N= 176       | N= 166       | N= 176       | G            N    1488  60.73   1.45*
|              |              |              |              | I
| %= 9.18      | %= 7.18      | %= 6.78      | %= 7.18      | N  I         T    1101  44.94   0.99
|              |              |              |              | G  N         F    1349  55.06   1.01
| I= 1.13      | I= 1.12      | I= 2.13*     | I= 2.25*     |    T
|              |              |              |              |    R         J    1416  57.80   1.29*
 -----------------------------------------------------------     O         P    1034  42.20   0.76*
| I S T P      | I S F P      | I N F P      | I N T P      |    V
|              |              |              |              |    E         IJ    743  30.33   1.45*
|              |              |              |              |    R         IP    569  23.22   0.87#
| N=  69       | N=  69       | N= 273       | N= 158       |    T
|              |              |              |              |    S         EP    465  18.98   0.67*
| %= 2.82      | %= 2.82      | %=11.14      | %= 6.45      | P            EJ    673  27.47   1.16*
|              |              |              |              | E
| I= 0.52*     | I= 0.37*     | I= 1.29*     | I= 1.26"     | R            ST    503  20.53   0.73*
|              |              |              |              | C            SF    459  18.73   0.63*
 -----------------------------------------------------------  E
| E S T P      | E S F P      | E N F P      | E N T P      | P            NF    890  36.33   1.48*
|              |              |              |              | T            NT    598  24.41   1.41*
|              |              |              |              | I
| N=  40       | N=  70       | N= 257       | N=  98       | V            SJ    714  29.14   0.92"
|              |              |              |              | E            SP    248  10.12   0.38*
| %= 1.63      | %= 2.86      | %=10.49      | %= 4.00      | S  E
|              |              |              |              |    X         NP    786  32.08   1.12#
| I= 0.30*     | I= 0.36*     | I= 1.10      | I= 0.73#     |    T         NJ    702  28.65   2.19*
|              |              |              |              |    R
 -----------------------------------------------------------     A         TJ    736  30.04   1.26*
| E S T J      | E S F J      | E N F J      | E N T J      | J  V         TP    365  14.90   0.69*
|              |              |              |              | U  E
|              |              |              |              | D  R         FP    669  27.31   0.81*
| N= 169       | N= 144       | N= 194       | N= 166       | G  T         FJ    680  27.76   1.34*
|              |              |              |              | I  S
| %= 6.90      | %= 5.88      | %= 7.92      | %= 6.78      | N            IN    773  31.55   1.57*
|              |              |              |              | G            EN    715  29.18   1.34*
| I= 0.75#     | I= 0.74#     | I= 2.44*     | I= 1.96*     |
|              |              |              |              |              IS    539  22.00   0.80*
 -----------------------------------------------------------               ES    423  17.27   0.56*

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   MALE HIGH SCHOOL JUNIORS AND SENIORS ON THE CAPT DATA BANK
   BASE TOTAL N =  3907, SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER              E  20.55   IJ   72.08   SJ    4.31   IN 106.34
                                      I  20.55   IP   10.14   SP 251.71   EN  45.10
   2.10     1.48    44.87    52.99               EP   73.30   NP    7.86   IS  24.82
                                      S 214.91   EJ   10.89   NJ 236.54   ES 140.33
  23.49    65.11    11.00     5.01    N 214.91
                                                 ST   46.71   TJ   29.01
  59.13    69.59     1.50     7.04    T   0.15   SF   99.72   TP   42.72
                                      F   0.15   NF  100.38   FP   29.63
   9.95     9.61    68.43    36.80               NT   48.19   FJ   41.07
                                      J 103.47
                                      P 103.47
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-75-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

MEDICAL STUDENTS
FEMALES

N= 574

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE C-6

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 36 %= 6.27 I= 1.85#	I S F J N= 52 %= 9.06 I= 1.05	I N F J N= 50 %= 8.71 I= 3.12*	I N T J N= 39 %= 6.79 I= 6.63*	JUDGING INTROVERTS
I S T P N= 11 %= 1.92 I= 1.04	I S F P N= 10 %= 1.74 I= 0.22*	I N F P N= 59 %=10.28 I= 0.99	I N T P N= 33 %= 5.75 I= 2.29*	PERCEPTIVES
E S T P N= 8 %= 1.39 I= 0.49"	E S F P N= 14 %= 2.44 I= 0.20*	E N F P N= 73 %=12.72 I= 0.73#	E N T P N= 32 %= 5.57 I= 1.72#	EXTRAVERTS
E S T J N= 27 %= 4.70 I= 1.13	E S F J N= 40 %= 6.97 I= 0.48*	E N F J N= 53 %= 9.23 I= 1.69*	E N T J N= 37 %= 6.45 I= 3.58*	JUDGING

	N	%	I
E	284	49.48	0.80*
I	290	50.52	1.32*
S	198	34.49	0.62*
N	376	65.51	1.47*
T	223	38.85	1.86*
F	351	61.15	0.77*
J	334	58.19	1.39*
P	240	41.81	0.72*
IJ	177	30.84	1.95*
IP	113	19.69	0.88
EP	127	22.13	0.62*
EJ	157	27.35	1.05
ST	82	14.29	1.17
SF	116	20.21	0.47*
NF	235	40.94	1.13"
NT	141	24.56	2.86*
SJ	155	27.00	0.88
SP	43	7.49	0.31*
NP	197	34.32	1.02
NJ	179	31.18	2.81*
TJ	139	24.22	2.33*
TP	84	14.63	1.40#
FP	156	27.18	0.57*
FJ	195	33.97	1.08
IN	181	31.53	1.89*
EN	195	33.97	1.21#
IS	109	18.99	0.88
ES	89	15.51	0.46*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
FEMALE HIGH SCHOOL JUNIORS AND SENIORS ON THE CAPT DATA BANK
BASE TOTAL N = 2831. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

10.63	0.12	45.89	81.18
0.02	27.54	0.00	16.93
4.04	47.16	7.80	7.35
0.34	24.20	11.75	40.89

E	29.67	IJ	71.76	SJ	3.27	IN	67.99
I	29.67	IP	2.15	SP	81.54	EN	8.23
		EP	39.21	NP	0.11	IS	1.98
S	82.87	EJ	0.41	NJ	155.61	ES	74.34
N	82.87						
		ST	1.78	TJ	82.25		
T	85.16	SF	104.54	TP	8.40		
F	85.16	NF	4.80	FP	81.11		
		NT	121.81	FJ	1.33		
J	51.28						
P	51.28						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

COMPOSITE OF
PRACTITIONERS IN

MEDICINE

N= 1881

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE C-7

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 267 %=14.19 I= 1.49*	I S F J N= 186 %= 9.89 I= 1.23*	I N F J N= 152 %= 8.08 I= 1.08	I N T J N= 131 %= 6.96 I= 1.02	JUDGING	INTROVERTS
I S T P N= 54 %= 2.87 I= 1.20	I S F P N= 45 %= 2.39 I= 0.85	I N F P N= 172 %= 9.14 I= 0.92	I N T P N= 93 %= 4.94 I= 0.84"	PERCEPTIVES	
E S T P N= 31 %= 1.65 I= 0.97	E S F P N= 35 %= 1.86 I= 0.73"	E N F P N= 148 %= 7.87 I= 0.78*	E N T P N= 62 %= 3.30 I= 0.79"		EXTRAVERTS
E S T J N= 148 %= 7.87 I= 1.08	E S F J N= 116 %= 6.17 I= 0.90	E N F J N= 119 %= 6.33 I= 0.81#	E N T J N= 122 %= 6.49 I= 0.98	JUDGING	

	N	%	I
E	781	41.52	0.88*
I	1100	58.48	1.10*
S	882	46.89	1.14*
N	999	53.11	0.90*
T	908	48.27	1.09*
F	973	51.73	0.93*
J	1241	65.98	1.09*
P	640	34.02	0.86*
IJ	736	39.13	1.23*
IP	364	19.35	0.92"
EP	276	14.67	0.79*
EJ	505	26.85	0.94
ST	500	26.58	1.27*
SF	382	20.31	1.00
NF	591	31.42	0.89*
NT	408	21.69	0.92"
SJ	717	38.12	1.20*
SP	165	8.77	0.92
NP	475	25.25	0.84*
NJ	524	27.86	0.97
TJ	668	35.51	1.18*
TP	240	12.76	0.90"
FP	400	21.27	0.84*
FJ	573	30.46	1.01
IN	548	29.13	0.97
EN	451	23.98	0.84*
IS	552	29.35	1.29*
ES	330	17.54	0.96

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS AND PRACTITIONERS IN MEDICINE
BASE TOTAL N = 8225. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

61.87	11.48	1.13	0.08
2.36	1.63	1.75	4.08
0.04	4.84	13.28	4.55
1.35	1.70	7.75	0.05

E	29.95	IJ	59.02	SJ	47.39	IN	1.29
I	29.95	IP	4.33	SP	1.44	EN	26.51
S	33.55	EP	23.88	NP	27.27	IS	60.18
N	33.55	EJ	3.41	NJ	1.01	ES	1.08
T	15.09	ST	48.07	TJ	32.65		
F	15.09	SF	0.01	TP	3.96		
J	31.55	NF	16.83	FP	22.23		
P	31.55	NT	4.39	FJ	0.07		

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE C-8

GROUP
TABULATED:

PHYSICIANS FOR WHOM
SEX IS KNOWN

N= 900

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE. I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	 WITH FEELING	INTUITIVE TYPES WITH FEELING	 WITH THINKING	
ISTJ N= 116 %=12.89 I= 0.91	ISFJ N= 81 %= 9.00 I= 0.91	INFJ N= 70 %= 7.78 I= 0.96	INTJ N= 73 %= 8.11 I= 1.16	JUDGING / INTROVERTS
ISTP N= 30 %= 3.33 I= 1.16	ISFP N= 26 %= 2.89 I= 1.21	INFP N= 104 %=11.56 I= 1.26*	INTP N= 51 %= 5.67 I= 1.15	PERCEPTIVES / INTROVERTS
ESTP N= 11 %= 1.22 I= 0.74	ESFP N= 13 %= 1.44 I= 0.78	ENFP N= 73 %= 8.11 I= 1.03	ENTP N= 26 %= 2.89 I= 0.88	PERCEPTIVES / EXTRAVERTS
ESTJ N= 60 %= 6.67 I= 0.85	ESFJ N= 56 %= 6.22 I= 1.01	ENFJ N= 57 %= 6.33 I= 1.00	ENTJ N= 53 %= 5.89 I= 0.91	JUDGING / EXTRAVERTS

	N	%	I
E	349	38.78	0.93"
I	551	61.22	1.05"
S	393	43.67	0.93#
N	507	56.33	1.06#
T	420	46.67	0.97
F	480	53.33	1.03
J	566	62.89	0.95#
P	334	37.11	1.09#
IJ	340	37.78	0.97
IP	211	23.44	1.21*
EP	123	13.67	0.93
EJ	226	25.11	0.94
ST	217	24.11	0.91"
SF	176	19.56	0.96
NF	304	33.78	1.08"
NT	203	22.56	1.04
SJ	313	34.78	0.91#
SP	80	8.89	1.01
NP	254	28.22	1.12#
NJ	253	28.11	1.01
TJ	302	33.56	0.94
TP	118	13.11	1.03
FP	216	24.00	1.13#
FJ	264	29.33	0.96
IN	298	33.11	1.14*
EN	209	23.22	0.97
IS	253	28.11	0.96
ES	140	15.56	0.89"

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SE[illegible] RATIO:
COMPOSITE OF PRACTITIONERS IN MEDICIN[illegible]
BASE TOTAL N = 1881, SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

2.42	1.53	0.21	3.50
1.32	1.82	12.08	1.92
1.93	1.64	0.14	0.90
3.44	0.01	0.00	1.01

E	5.35	IJ	1.32	SJ	8.16	IN	13.22
I	5.35	IP	18.52	SP	0.03	EN	0.54
S	7.20	EP	1.40	NP	8.06	IS	1.27
N	7.20	EJ	2.65	NJ	0.06	ES	4.72
T	1.78	ST	5.40	TJ	2.89		
F	1.78	SF	0.60	TP	0.19		
J	7.32	NF	4.45	FP	7.71		
P	7.32	NT	0.76	FJ	1.04		

SOURCE OF DATA:	GROUP TABULATED:	MBTI TYPE TABLE
MARY H. MCCAULLEY, PH.D. AND OTHER CONTRIBUTORS HEW CONTRACT 231-76-0051 AMSA FOUNDATION - CAPT	PHYSICIANS: MALES	CENTER FOR APPLICATIONS OF PSYCHOLOGICAL TYPE
TABLE CREATED 7/31/77	N= 777	LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE. I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE C-9

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 98 %=12.61 I= 0.98	I S F J N= 64 %= 8.24 I= 0.92"	I N F J N= 60 %= 7.72 I= 0.99	I N T J N= 63 %= 8.11 I= 1.00	JUDGING	INTROVERTS
I S T P N= 27 %= 3.47 I= 1.04	I S F P N= 23 %= 2.96 I= 1.02	I N F P N= 94 %=12.10 I= 1.05	I N T P N= 42 %= 5.41 I= 0.95	PERCEPTIVES	
E S T P N= 10 %= 1.29 I= 1.05	F S F P N= 10 %= 1.29 I= 0.89	E N F P N= 61 %= 7.85 I= 0.97	E N T P N= 19 %= 2.45 I= 0.85"		EXTRAVERTS
E S T J N= 56 %= 7.21 I= 1.08	E S F J N= 50 %= 6.44 I= 1.03	E N F J N= 47 %= 6.05 I= 0.96	E N T J N= 53 %= 6.82 I= 1.16#	JUDGING	

	N	%	I
E	306	39.38	1.02
I	471	60.62	0.99
S	338	43.50	1.00
N	439	56.50	1.00
T	368	47.36	1.01
F	409	52.64	0.99
J	491	63.19	1.00
P	286	36.81	0.99
IJ	285	36.68	0.97
IP	186	23.94	1.02
EP	100	12.87	0.94
EJ	206	26.51	1.06"
ST	191	24.58	1.02
SF	147	18.92	0.97
NF	262	33.72	1.00
NT	177	22.78	1.01
SJ	268	34.49	0.99
SP	70	9.01	1.01
NP	216	27.80	0.99
NJ	223	28.70	1.02
TJ	270	34.75	1.04
TP	98	12.61	0.96
FP	188	24.20	1.01
FJ	221	28.44	0.97
IN	259	33.33	1.01
EN	180	23.17	1.00
IS	212	27.28	0.97
ES	126	16.22	1.04

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
PHYSICIANS FOR WHOM SEX IS KNOWN
BASE TOTAL N = 900. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.39	4.04	0.02	0.00
0.61	0.79	1.64	0.73
0.72	0.40	0.52	3.99
0.12	0.44	0.78	0.00

E	0.87	IJ	2.92	SJ	0.21	IN	0.13
I	0.87	IP	0.77	SP	0.10	EN	0.01
		EP	3.06	NP	0.50	IS	1.92
S	0.06	EJ	5.94	NJ	0.98	ES	1.89
N	0.06						
		ST	0.69	TJ	3.63		
T	1.10	SF	1.46	TP	1.24		
F	1.10	NF	0.01	FP	0.12		
		NT	0.16	FJ	2.18		
J	0.22						
P	0.22						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE C-10

GROUP
TABULATED:

PHYSICIANS:
FEMALES

N= 123

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX;
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
ISTJ N= 18 %=14.63 I= 1.14	ISFJ N= 17 %=13.82 I= 1.54"	INFJ N= 10 %= 8.13 I= 1.05	INTJ N= 10 %= 8.13 I= 1.00	JUDGING / INTROVERTS
ISTF N= 3 %= 2.44 I= 0.73	ISFP N= 3 %= 2.44 I= 0.84	INFP N= 10 %= 8.13 I= 0.70	INTP N= 9 %= 7.32 I= 1.29	PERCEPTIVES / INTROVERTS
ESTP N= 1 %= 0.81 I= 0.67	ESFP N= 3 %= 2.44 I= 1.69	ENFP N= 12 %= 9.76 I= 1.20	ENTP N= 7 %= 5.69 I= 1.97"	PERCEPTIVES / EXTRAVERTS
ESTJ N= 4 %= 3.25 I= 0.49	ESFJ N= 6 %= 4.88 I= 0.78	ENFJ N= 10 %= 8.13 I= 1.28	ENTJ N= 0 %= 0.0 I= 0.0 #	JUDGING / EXTRAVERTS

	N	%	I
E	43	34.96	0.90
I	80	65.04	1.06
S	55	44.72	1.02
N	68	55.28	0.98
T	52	42.28	0.91
F	71	57.72	1.08
J	75	60.98	0.97
P	48	39.02	1.05
IJ	55	44.72	1.18
IP	25	20.33	0.87
EP	23	18.70	1.37
EJ	20	16.26	0.65"
ST	26	21.14	0.88
SF	29	23.53	1.21
NF	42	34.15	1.01
NT	26	21.14	0.94
SJ	45	36.59	1.05
SP	10	8.13	0.91
NP	38	30.89	1.09
NJ	30	24.39	0.87
TJ	32	26.02	0.78
TP	20	16.26	1.24
FP	28	22.76	0.95
FJ	43	34.96	1.19
IN	39	31.71	0.96
EN	29	23.58	1.02
IS	41	33.33	1.19
ES	14	11.38	0.73

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
# IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
PHYSICIANS FOR WHOM SEX IS KNOWN
BASE TOTAL N = 900, SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.39	4.04	0.02	0.00
0.61	0.78	1.64	0.73
0.72	0.40	0.52	3.99
0.12	0.44	0.78	0.00

E	0.87
I	0.87
S	0.06
N	0.06
T	1.10
F	1.10
J	0.22
P	0.22
IJ	2.92
IP	0.77
EP	3.06
EJ	5.94
ST	0.69
SF	1.46
NF	0.01
NT	0.16
SJ	0.21
SP	0.10
NP	0.50
NJ	0.98
TJ	3.63
TP	1.24
FP	0.12
FJ	2.18
IN	0.13
EN	0.01
IS	1.92
ES	1.89

```
SOURCE OF DATA:                      GROUP                   MBTI TYPE TABLE
                                   TABULATED:            CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                 OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS       MYERS' LONGITUDINAL
 HEW CONTRACT 231-76-0051         MEDICAL STUDY          LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT          TOTAL SAMPLE           TOTAL CHOOSING THIS GROUP
                                                         WHO FALL INTO THIS TYPE.
TABLE CREATED 7/31/77                                    I = SELFSELECTION INDEX;
                                                         RATIO OF PERCENT OF TYPE
                                   N= 5355               IN GROUP TO % IN SAMPLE.
TABLE C-11

     SENSING TYPES          INTUITIVE TYPES
WITH        WITH        WITH        WITH                              N      %       I
THINKING    FEELING     FEELING     THINKING
-------------------------------------------------          E    2751  51.37   0.79*
| I S T J   | I S F J   | I N F J   | I N T J   | J        I    2604  48.63   1.38*
|           |           |           |           | U
|           |           |           |           | D        S    2510  46.87   0.69*
| N= 321    | N= 246    | N= 209    | N= 339    | G        N    2845  53.13   1.67*
|           |           |           |           | I
| %= 5.99   | %= 4.59   | %= 3.90   | %= 6.33   | N I      T    2890  53.97   1.13*
|           |           |           |           | G N      F    2465  46.03   0.88*
| I= 0.87"  | I= 0.67*  | I= 2.18*  | I= 2.42*  |   T
|           |           |           |           |   R      J    2497  46.63   0.85*
-------------------------------------------------   O      P    2858  53.37   1.18*
| I S T P   | I S F P   | I N F P   | I N T P   |   V
|           |           |           |           |   E      IJ   1115  20.82   1.15*
|           |           |           |           |   R      IP   1489  27.81   1.64*
| N= 311    | N= 266    | N= 389    | N= 523    |   T
|           |           |           |           |   S      EP   1369  25.56   0.90*
| %= 5.81   | %= 4.97   | %= 7.26   | %= 9.77   | P        EJ   1382  25.81   0.71*
|           |           |           |           | E
| I= 1.40*  | I= 0.92   | I= 1.87*  | I= 2.76*  | R        ST   1338  24.99   0.77*
|           |           |           |           | C        SF   1172  21.89   0.62*
------------------------------------------------- E
| E S T P   | E S F P   | E N F P   | E N T P   | P        NF   1293  24.15   1.43*
|           |           |           |           | T        NT   1552  28.98   1.93*
|           |           |           |           | I
| N= 278    | N= 300    | N= 429    | N= 362    | V        SJ   1355  25.30   0.59*
|           |           |           |           | E        SP   1155  21.57   0.85*
| %= 5.19   | %= 5.60   | %= 8.01   | %= 6.76   | S E
|           |           |           |           |   X      NP   1703  31.80   1.60*
| I= 0.80#  | I= 0.60*  | I= 1.05   | I= 1.38*  |   T      NJ   1142  21.33   1.79*
|           |           |           |           |   R
-------------------------------------------------   A      TJ   1416  26.44   0.93#
| E S T J   | E S F J   | E N F J   | E N T J   | J V      TP   1474  27.53   1.44*
|           |           |           |           | U E
|           |           |           |           | D R      FP   1384  25.84   0.98
| N= 428    | N= 360    | N= 266    | N= 328    | G T      FJ   1081  20.19   0.77*
|           |           |           |           | I S
| %= 7.99   | %= 6.72   | %= 4.97   | %= 6.13   | N        IN   1460  27.26   2.30*
|           |           |           |           | G        EN   1385  25.86   1.29*
| I= 0.53*  | I= 0.48*  | I= 1.38*  | I= 1.56*  |
|           |           |           |           |          IS   1144  21.36   0.92#
-------------------------------------------------          ES   1366  25.51   0.57*

  NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

  BASE POPULATION USED IN CALCULATING SELECTION RATIO:
  MYERS' STUDENTS IN PENNSYLVANIA HIGH SCHOOLS
  BASE TOTAL N =  9320. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER            E 257.24   IJ  15.64   SJ 444.01   IN 560.73
                                    I 257.24   IP 240.06   SP  28.07   EN  67.31
   4.74    29.94    60.71  122.87              EP  13.56   NP 261.11   IS   7.33
                                    S 642.59   EJ 176.02   NJ 230.27   ES 540.01
  20.28     1.26    79.42  240.78   N 642.59
                                               ST  93.62   TJ   6.73
  10.64    65.54     0.82   22.53   T  55.98   SF 299.51   TP 139.18
                                    F  55.98   NF 113.94   FP   0.30
 152.10   177.87    16.04   36.47              NT 415.46   FJ  67.22
                                    J  87.06
                                    P  87.06
```

```
SOURCE OF DATA:                         GROUP                   MBTI TYPE TABLE
                                     TABULATED:           CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                   OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS         MYERS' MEDICAL STUDY
 HEW CONTRACT 231-76-0051           TOTAL SAMPLE          LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT               MALES              TOTAL CHOOSING THIS GROUP
                                                          WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                    I = SELFSELECTION INDEX;
                                                          RATIO OF PERCENT OF TYPE
                                       N= 5057            IN GROUP TO % IN SAMPLE.
 TABLE C-12

     SENSING TYPES            INTUITIVE TYPES
 WITH         WITH         WITH         WITH                               N      %       I
 THINKING     FEELING      FEELING      THINKING
-------------------------------------------------                 E     2597  51.35   0.83*
| I S T J    | I S F J    | I N F J    | I N T J    | J          I     2460  48.65   1.28*
|            |            |            |            | U
|            |            |            |            | D          S     2412  47.70   0.72*
| N= 299     | N= 231     | N= 180     | N= 315     | G          N     2645  52.30   1.53*
|            |            |            |            | I
| %= 5.91    | %= 4.57    | %= 3.56    | %= 6.23    | N I        T     2760  54.58   0.89*
|            |            |            |            | G N        F     2297  45.42   1.17*
| I= 0.68*   | I= 1.02    | I= 2.22*   | I= 1.69*   |   T
|            |            |            |            |   R        J     2319  45.86   0.88*
-------------------------------------------------     O        P     2738  54.14   1.13*
| I S T P    | I S F P    | I N F P    | I N T P    |   V
|            |            |            |            |   E        IJ    1025  20.27   1.09"
|            |            |            |            |   R        IP    1435  28.38   1.45*
| N= 307     | N= 262     | N= 365     | N= 501     |   T
|            |            |            |            |   S        EP    1303  25.77   0.91#
| %= 6.07    | %= 5.18    | %= 7.22    | %= 9.91    | P          EJ    1294  25.59   0.77*
|            |            |            |            | E
| I= 0.99    | I= 1.00    | I= 2.07*   | I= 2.07*   | R          ST    1297  25.65   0.63*
|            |            |            |            | C          SF    1115  22.05   0.88*
-------------------------------------------------   E
| E S T P    | E S F P    | E N F P    | E N T P    | P          NF    1182  23.37   1.68*
|            |            |            |            | T          NT    1463  28.93   1.43*
|            |            |            |            | I
| N= 275     | N= 290     | N= 396     | N= 342     | V          SJ    1278  25.27   0.66*
|            |            |            |            | E          SP    1134  22.42   0.82*
| %= 5.44    | %= 5.73    | %= 7.83    | %= 6.76    | S E
|            |            |            |            |   X        NP    1604  31.72   1.54*
| I= 0.61*   | I= 0.80#   | I= 1.31*   | I= 1.06    |   T        NJ    1041  20.59   1.53*
|            |            |            |            |   R
-------------------------------------------------     A        TJ    1335  26.40   0.76*
| E S T J    | E S F J    | E N F J    | E N T J    | J V        TP    1425  28.18   1.08"
|            |            |            |            | U E
|            |            |            |            | D R        FP    1313  25.96   1.19*
| N= 416     | N= 332     | N= 241     | N= 305     | G T        FJ     984  19.46   1.14#
|            |            |            |            | I S
| %= 8.23    | %= 6.57    | %= 4.77    | %= 6.03    | N          IN    1361  26.91   1.98*
|            |            |            |            | G          EN    1284  25.39   1.24*
| I= 0.48*   | I= 0.80#   | I= 1.68*   | I= 1.13    |
|            |            |            |            |            IS    1099  21.73   0.89*
-------------------------------------------------                 ES    1313  25.96   0.63*

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E.. CHI SQ. >  3.8;
         #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E.. CHI SQ. >  6.6;
         *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E.. CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   MYER'S PENNSYLVANIA HIGH SCHOOL STUDENTS--MALES
   BASE TOTAL N =  4933. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER            E 113.23   IJ   4.84   SJ 201.93   IN 274.93
                                    I 113.23   IP 106.29   SP  32.65   EN  32.96
 29.80     0.04    37.91    34.07              EP   9.18   NP 157.80   IS  10.99
                                    S 336.37   EJ  74.22   NJ  89.56   ES 265.25
  0.01     0.00    68.34    95.91   N 336.37
                                               ST 260.32   TJ  83.96
 45.08     8.60    13.28     0.52   T  42.99   SF  12.38   TP   4.88
                                    F  42.99   NF 147.22   FP  23.66
177.39     9.89    25.29     2.28              NT 102.28   FJ   9.05
                                    J  37.42
                                    P  37.42
```

```
SOURCE OF DATA:                      GROUP                      MBTI TYPE TABLE
                                   TABULATED:               CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                    OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS        MYERS' MEDICAL STUDY
 HEW CONTRACT 231-76-0051          TOTAL SAMPLE             LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT             FEMALES                TOTAL CHOOSING THIS GROUP
                                                            WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                      I = SELFSELECTION INDEX;
                                                            RATIO OF PERCENT OF TYPE
                                      N=  298               IN GROUP TO % IN SAMPLE.
 TABLE C-13

      SENSING TYPES              INTUITIVE TYPES
WITH           WITH           WITH           WITH                           N      %        I
THINKING       FEELING        FEELING        THINKING
------------------------------------------------------------        E     154  51.68   0.76*
| I S T J     | I S F J     | I N F J     | I N T J     | J          I     144  48.32   1.52*
|             |             |             |             | U
|             |             |             |             | D          S      98  32.89   0.47*
| N=  22      | N=  15      | N=  29      | N=  24      | G          N     200  67.11   2.29*
|             |             |             |             | I
| %= 7.38     | %= 5.03     | %= 9.73     | %= 8.05     | N I        T     130  43.62   1.35*
|             |             |             |             | G N        F     168  56.38   0.83*
| I= 1.52     | I= 0.53"    | I= 4.85*    | I= 5.70*    |   T
|             |             |             |             |   R        J     178  59.73   1.04
------------------------------------------------------------ O        P     120  40.27   0.95
| I S T P     | I S F P     | I N F P     | I N T P     |   V
|             |             |             |             |   E        IJ     90  30.20   1.70*
|             |             |             |             |   R        IP     54  18.12   1.28
| N=   4      | N=   4      | N=  24      | N=  22      |   T
|             |             |             |             |   S        EP     66  22.15   0.78"
| %= 1.34     | %= 1.34     | %= 8.05     | %= 7.38     | P          EJ     88  29.53   0.74*
|             |             |             |             | E
| I= 0.68     | I= 0.24#    | I= 1.85#    | I= 3.45*    | R          ST     41  13.76   0.59*
|             |             |             |             | C          SF     57  19.13   0.40*
------------------------------------------------------------ E
| E S T P     | E S F P     | E N F P     | E N T P     | P          NF    111  37.25   1.84*
|             |             |             |             | T          NT     89  29.87   3.28*
|             |             |             |             | I
| N=   3      | N=  10      | N=  33      | N=  20      | V          SJ     77  25.84   0.55*
|             |             |             |             | E          SP     21   7.05   0.30*
| %= 1.01     | %= 3.36     | %=11.07     | %= 6.71     | S E
|             |             |             |             |   X        NP     99  33.22   1.74*
| I= 0.26"    | I= 0.28*    | I= 1.18     | I= 2.10#    |   T        NJ    101  33.89   3.31*
|             |             |             |             |   R
------------------------------------------------------------ A        TJ     81  27.18   1.28"
| E S T J     | E S F J     | E N F J     | E N T J     | J V        TP     49  16.44   1.48#
|             |             |             |             | U E
|             |             |             |             | D R        FP     71  23.83   0.76#
| N=  12      | N=  28      | N=  25      | N=  23      | G T        FJ     97  32.55   0.89
|             |             |             |             | I S
| %= 4.03     | %= 9.40     | %= 8.39     | %= 7.72     | N          IN     99  33.22   3.35*
|             |             |             |             | G          EN    101  33.89   1.75*
| I= 0.32*    | I= 0.46*    | I= 1.88#    | I= 3.29*    |
|             |             |             |             |            IS     45  15.10   0.69#
------------------------------------------------------------           ES     53  17.79   0.36*

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
 (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   MYER'S PENNSYLVANIA HIGH SCHOOL STUDENTS--FEMALES
   BASE TOTAL N =  4387. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

       TYPE TABLE ORDER            E   34.33    IJ   28.73    SJ   52.06    IN 150.08
                                   I   34.33    IP    3.65    SP   42.57    EN  36.07
  3.74     6.56    68.40   68.28                EP    5.23    NP   34.77    IS   7.71
                                   S 183.81     EJ   12.51    NJ  150.73    ES 107.37
  0.51     0.00     8.72   31.73   N 183.81
                                                ST   14.41    TJ    5.85
  0.02    20.01     0.89   10.48   T   15.97    SF   89.86    TP    7.70
                                   F   15.97    NF   48.11    FP    7.22
 19.36    21.51     9.55   30.75                NT  129.01    FJ    1.77
                                   J    0.52
                                   P    0.52
```

Table 14

MEDICAL STUDENTS

TESTED FROM MAY 1, 1977 TO DECEMBER 31, 1977

N = 1227

SENSING TYPES		INTUITIVE TYPES			
with THINKING	with FEELING	with FEELING	with THINKING		
ISTJ N= 84 %= 6.85 ▯▯▯▯▯▯▯	*ISFJ* N= 76 %= 6.19 ▯▯▯▯▯▯	*INFJ* N=104 %= 8.48 ▯▯▯▯▯▯▯▯	*INTJ* N= 89 %= 7.25 ▯▯▯▯▯▯▯	JUDGING	INTROVERTS
ISTP N= 20 %= 1.66 ▯▯	*ISFP* N= 28 %= 2.32 ▯▯	*INFP* N=151 %= 12.50 ▯▯▯▯▯▯▯▯▯▯ ▯▯	*INTP* N= 68 %= 5.63 ▯▯▯▯▯▯	PERCEPTIVE	
ESTP N= 20 %= 1.66 ▯▯	*ESFP* N= 37 %= 3.06 ▯▯▯	*ENFP* N=172 %= 14.24 ▯▯▯▯▯▯▯▯▯▯ ▯▯▯▯	*ENTP* N= 63 %= 5.22 ▯▯▯▯▯	PERCEPTIVE	EXTRAVERTS
ESTJ N= 64 %= 5.30 ▯▯▯▯▯	*ESFJ* N= 78 %= 6.46 ▯▯▯▯▯▯	*ENFJ* N=101 %= 8.36 ▯▯▯▯▯▯▯▯	*ENTJ* N= 58 %= 4.80 ▯▯▯▯▯	JUDGING	

	NUMBER	PERCENT
E	605	49.31
I	622	50.69
S	416	33.90
N	811	66.10
T	473	38.55
F	754	61.45
J	665	54.20
P	562	45.80
IJ	353	28.77
IP	269	21.92
EP	293	23.88
EJ	312	25.32
ST	193	15.73
SF	223	18.17
NF	531	43.28
NT	280	22.82
SJ	310	25.26
SP	106	8.64
NP	456	37.16
NJ	355	29.93
TJ	302	24.61
TP	171	13.94
FP	391	31.87
FJ	363	29.58
IN	413	33.66
EN	398	32.44
IS	209	17.03
ES	207	16.87

NOTES: ▯ = 1% of sample

Includes medical student cases processed by Center for Applications of Psychological Type between 5-1-77 and 12-31-77. Cases include samples from schools and samples from American Medical Student Association meetings and chapters.

Table prepared as part of the final report for "Application of the Myers-Briggs Type Indicator to Medicine and Other Health Professions," Contract No. 231-76-0051 for Health Resources Administration, HEW.

CAPT 1-78

Table 15

COMPOSITE OF

7190 MEDICAL STUDENTS TESTED IN THE 1960's AND 1970's

INCLUDING CASES PROCESSED BY CAPT UP TO 12-31-77

SENSING TYPES with THINKING	SENSING TYPES with FEELING	INTUITIVE TYPES with FEELING	INTUITIVE TYPES with THINKING	
ISTJ N = 575 % = 7.98 ▯▯▯▯▯▯▯▯	*ISFJ* N = 524 % = 7.27 ▯▯▯▯▯▯▯	*INFJ* N = 545 % = 7.56 ▯▯▯▯▯▯▯▯	*INTJ* N = 498 % = 6.91 ▯▯▯▯▯▯▯	JUDGING INTROVERTS
ISTP N = 161 % = 2.23 ▯▯	*ISFP* N = 206 % = 2.86 ▯▯▯	*INFP* N = 776 % = 10.76 ▯▯▯▯▯▯▯▯▯▯ ▯	*INTP* N = 448 % = 6.21 ▯▯▯▯▯▯	PERCEPTIVE INTROVERTS
ESTP N = 122 % = 1.69 ▯▯	*ESFP* N = 206 % = 2.86 ▯▯▯	*ENFP* N = 810 % = 11.24 ▯▯▯▯▯▯▯▯▯▯ ▯	*ENTP* N = 333 % = 4.62 ▯▯▯▯▯	PERCEPTIVE EXTRAVERTS
ESTJ N = 474 % = 6.58 ▯▯▯▯▯▯▯	*ESFJ* N = 489 % = 6.78 ▯▯▯▯▯▯▯	*ENFJ* N = 596 % = 8.27 ▯▯▯▯▯▯▯▯	*ENTJ* N = 446 % = 6.19 ▯▯▯▯▯▯	JUDGING EXTRAVERTS

	NUMBER	PERCENT
E	3476	48.22
I	3733	51.78
S	2757	38.23
N	4452	61.76
T	3057	42.41
F	4152	57.59
J	4147	57.53
P	3062	42.47
IJ	2142	29.71
IP	1591	22.07
EP	1471	20.41
EJ	2005	27.81
ST	1332	18.48
SF	1425	19.77
NF	2727	37.83
NT	1725	23.93
SJ	2062	28.60
SP	695	9.64
NP	2367	32.83
NJ	2085	28.92
TJ	1993	27.65
TP	1064	14.76
FP	1998	27.72
FJ	2154	29.88
IN	2267	31.45
EN	2185	30.31
IS	1466	20.34
ES	1291	17.91

NOTES: ▯ = 1% of sample

Table prepared 1-78 to add 1227 medical students who took the MBTI between 5-1-77 and 12-31-77. This table supersedes the table of 5982 medical students used in the report.

Table prepared as part of the final report for "Application of the Myers-Briggs Type Indicator to Medicine and Other Health Professions," Contract No. 231-76-0051 for Health Resources Administration, HEW.

CAPT 1-78

Appendix D

Dentistry and Allied Fields

Table Number	Name of Group Tabulated	Number in Group	Compared to Base
D 1	All Students and Practitioners	1,282	32,271
D 2	Dental Students	1,046	6,738
D 3	Dental Students for Whom Sex is Known	285	1,046
D 4	Dental Students: Males	238	3,907
D 5	Dental Students: Females	47	2,831
D 6	Practicing Dentists	52	1,098
D 7	Dental Assistants: Students	58	2,831
D 8	Dental Assistants	36	2,831
D 9	Dental Hygienists: Students	77	2,831

```
SOURCE OF DATA:                        GROUP                       MBTI TYPE TABLE
                                     TABULATED:               CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                      OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS         COMPOSITE:  STUDENTS
 HEW CONTRACT 231-76-0051        AND PRACTITIONERS IN        LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT            DENTISTRY AND            TOTAL CHOOSING THIS GROUP
                                    ALLIED FIELDS            WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                       I = SELFSELECTION INDEX;
                                                             RATIO OF PERCENT OF TYPE
                                      N= 1282                IN GROUP TO % IN SAMPLE.
TABLE D-1

      SENSING TYPES               INTUITIVE TYPES
WITH          WITH            WITH           WITH                               N     %       I
THINKING      FEELING         FEELING        THINKING
--------------------------------------------------------                E    690  53.82   1.03
| I S T J    | I S F J    | I N F J    | I N T J    |  J               I    592  46.18   0.97
|            |            |            |            |  U
|            |            |            |            |  D               S    766  59.75   1.16*
| N= 142     | N= 138     | N=  48     | N=  66     |  G               N    516  40.25   0.83*
|            |            |            |            |  I
| %=11.08    | %=10.76    | %= 3.74    | %= 5.15    |  N I             T    592  46.18   1.27*
|            |            |            |            |  G N             F    690  53.82   0.85*
| I= 1.33*   | I= 1.02    | I= 0.70#   | I= 1.27"   |    T
|            |            |            |            |    R             J    867  67.63   1.14*
--------------------------------------------------------    O             P    415  32.37   0.79*
| I S T P    | I S F P    | I N F P    | I N T P    |    V
|            |            |            |            |    E             IJ   394  30.73   1.09"
|            |            |            |            |    R             IP   198  15.44   0.80*
| N=  28     | N=  53     | N=  74     | N=  43     |    T
|            |            |            |            |    S             EP   217  16.93   0.79*
| %= 2.18    | %= 4.13    | %= 5.77    | %= 3.35    |  P               EJ   473  36.90   1.19*
|            |            |            |            |  E
| I= 0.93    | I= 0.91    | I= 0.66*   | I= 0.91    |  R               ST   359  28.00   1.38*
|            |            |            |            |  C               SF   407  31.75   1.02
--------------------------------------------------------  E
| E S T P    | E S F P    | E N F P    | E N T P    |  P               NF   283  22.07   0.68*
|            |            |            |            |  T               NT   233  18.17   1.14"
|            |            |            |            |  I
| N=  23     | N=  54     | N=  92     | N=  48     |  V               SJ   608  47.43   1.25*
|            |            |            |            |  E               SP   158  12.32   0.92
| %= 1.79    | %= 4.21    | %= 7.18    | %= 3.74    |  S E
|            |            |            |            |    X             NP   257  20.05   0.73*
| I= 0.94    | I= 0.91    | I= 0.63*   | I= 1.03    |    T             NJ   259  20.20   0.95
|            |            |            |            |    R
--------------------------------------------------------    A             TJ   450  35.10   1.42*
| E S T J    | E S F J    | E N F J    | E N T J    |  J V             TP   142  11.08   0.96
|            |            |            |            |  U E
|            |            |            |            |  D R             FP   273  21.29   0.73*
| N= 166     | N= 162     | N=  69     | N=  76     |  G T             FJ   417  32.53   0.94
|            |            |            |            |  I S
| %=12.95    | %=12.64    | %= 5.38    | %= 5.93    |  N               IN   231  18.02   0.82*
|            |            |            |            |  G               EN   285  22.23   0.83*
| I= 1.67*   | I= 1.12    | I= 0.74#   | I= 1.29"   |
|            |            |            |            |                  IS   361  28.16   1.09"
--------------------------------------------------------                   ES   405  31.59   1.23*

  NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
       "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. >  3.8;
       #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. >  6.6;
       *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
 (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

  BASE POPULATION USED IN CALCULATING SELECTION RATIO:
  COMPOSITE OF STUDENTS & PRACTITIONERS IN ALL HEALTH AND HEALTH RELATED FIELDS.
  BASE TOTAL N = 32271. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER              E    1.13   IJ   3.93   SJ  51.04   IN  11.47
                                      I    1.13   IP  13.00   SP   1.42   EN  14.07
 12.89     0.08     6.79     4.04                 EP  16.37   NP  36.11   IS   3.94
                                      S   37.49   EJ  22.52   NJ   0.87   ES  25.23
  0.15     0.56    14.78     0.43     N   37.49
                                                  ST  48.07   TJ  76.86
  0.11     0.49    22.83     0.06     T   56.05   SF   0.34   TP   0.33
                                      F   56.05   NF  68.06   FP  40.73
 50.62     2.32     6.93     5.52                 NT   4.87   FJ   2.16
                                      J   39.42
                                      P   39.42
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

DENTAL
STUDENTS

N= 1046

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX;
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

TABLE D-2

SENSING TYPES WITH THINKING	 WITH FEELING	INTUITIVE TYPES WITH FEELING	 WITH THINKING		
I S T J N= 131 %=12.52 I= 2.04*	I S F J N= 98 %= 9.37 I= 1.28"	I N F J N= 42 %= 4.02 I= 1.33	I N T J N= 57 %= 5.45 I= 2.38*	JUDGING	INTROVERTS
I S T P N= 25 %= 2.39 I= 0.61"	I S F P N= 38 %= 3.63 I= 0.47*	I N F P N= 61 %= 5.83 I= 0.62*	I N T P N= 38 %= 3.63 I= 0.90	PERCEPTIVES	
E S T P N= 21 %= 2.01 I= 0.46*	E S F P N= 33 %= 3.15 I= 0.33*	E N F P N= 69 %= 6.60 I= 0.51*	E N T P N= 44 %= 4.21 I= 0.93		EXTRAVERTS
E S T J N= 142 %=13.58 I= 1.93*	E S F J N= 125 %=11.95 I= 1.11	E N F J N= 54 %= 5.16 I= 1.23	E N T J N= 68 %= 6.50 I= 2.36*	JUDGING	

	N	%	I
E	556	53.15	0.95
I	490	46.85	1.07
S	613	58.60	1.03
N	433	41.40	0.96
T	526	50.29	1.43*
F	520	49.71	0.77*
J	717	68.55	1.58*
P	329	31.45	0.56*
IJ	328	31.36	1.67*
IP	162	15.49	0.62*
EP	167	15.97	0.51*
EJ	389	37.19	1.50*
ST	319	30.50	1.42*
SF	294	28.11	0.79*
NF	226	21.61	0.73*
NT	207	19.79	1.45*
SJ	496	47.42	1.52*
SP	117	11.19	0.44*
NP	212	20.27	0.66*
NJ	221	21.13	1.73*
TJ	398	38.05	2.09*
TP	128	12.24	0.73*
FP	201	19.22	0.48*
FJ	319	30.50	1.21*
IN	198	18.93	1.01
EN	235	22.47	0.92
IS	292	27.92	1.11"
ES	321	30.69	0.96

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
BASE TOTAL N = 6738. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

56.60	5.35	2.99	34.37
5.72	22.70	13.85	0.36
13.31	47.98	33.78	0.24
52.84	1.35	2.09	40.13

E	3.51	IJ	88.08	SJ	106.08	IN	0.04
I	3.51	IP	45.09	SP	105.22	EN	1.79
		EP	105.33	NP	48.37	IS	3.83
S	1.00	EJ	72.20	NJ	61.44	ES	0.59
N	1.00						
		ST	41.86	TJ	214.92		
T	89.46	SF	21.73	TP	14.22		
F	89.46	NF	27.27	FP	162.02		
		NT	27.99	FJ	12.84		
J	227.84						
P	227.84						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

DENTAL STUDENTS
FOR WHOM
SEX IS KNOWN

N= 285

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE D-3

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 34 %=11.93 I= 0.95	I S F J N= 27 %= 9.47 I= 1.01	I N F J N= 9 %= 3.16 I= 0.79	I N T J N= 15 %= 5.26 I= 0.97	JUDGING	INTROVERTS
I S T P N= 5 %= 1.75 I= 0.73	I S F P N= 16 %= 5.61 I= 1.55"	I N F P N= 22 %= 7.72 I= 1.32	I N T P N= 11 %= 3.86 I= 1.06	PERCEPTIVES	
E S T P N= 3 %= 1.05 I= 0.52	E S F P N= 7 %= 2.46 I= 0.78	E N F P N= 26 %= 9.12 I= 1.38"	E N T P N= 11 %= 3.86 I= 0.92		EXTRAVERTS
E S T J N= 30 %=10.53 I= 0.78	E S F J N= 31 %=10.88 I= 0.91	E N F J N= 17 %= 5.96 I= 1.16	E N T J N= 21 %= 7.37 I= 1.13	JUDGING	

	N	%	I
E	146	51.23	0.96
I	139	48.77	1.04
S	153	53.68	0.92"
N	132	46.32	1.12"
T	130	45.61	0.91
F	155	54.39	1.09
J	184	64.56	0.94
P	101	35.44	1.13
IJ	85	29.82	0.95
IP	54	18.95	1.22
EP	47	16.49	1.03
EJ	99	34.74	0.93
ST	72	25.26	0.83"
SF	81	28.42	1.01
NF	74	25.96	1.20"
NT	58	20.35	1.03
SJ	122	42.81	0.90
SP	31	10.88	0.97
NP	70	24.56	1.21"
NJ	62	21.75	1.03
TJ	100	35.09	0.92
TP	30	10.53	0.86
FP	71	24.91	1.30#
FJ	84	29.47	0.97
IN	57	20.00	1.06
EN	75	26.32	1.17
IS	82	28.77	1.03
ES	71	24.91	0.81"

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
DENTAL STUDENTS
BASE TOTAL N = 1046. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.13	0.01	0.75	0.03
0.50	4.39	2.54	0.06
0.22	0.63	4.06	0.12
3.10	0.43	0.52	0.48

E	0.58	IJ	0.43	SJ	3.34	IN	0.29
I	0.58	IP	3.58	SP	0.04	EN	3.33
		EP	0.08	NP	4.47	IS	0.14
S	3.91	EJ	1.01	NJ	0.09	ES	6.14
N	3.91						
		ST	5.06	TJ	1.46		
T	3.42	SF	0.02	TP	1.07		
F	3.42	NF	4.39	FP	8.19		
		NT	0.08	FJ	0.19		
J	2.89						
P	2.89						

```
SOURCE OF DATA:                        GROUP                   MBTI TYPE TABLE
                                     TABULATED:           CENTER FOR APPLICATIONS
MARY H. MCCAULLEY, PH.D.                                   OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS           DENTAL STUDENTS:
HEW CONTRACT 231-76-0051               MALES              LEGEND: % = PERCENT OF
 AMSA FOUNDATION - CAPT                                   TOTAL CHOOSING THIS GROUP
                                                          WHO FALL INTO THIS TYPE.
TABLE CREATED 7/31/77                                     I = SELFSELECTION INDEX;
                                                          RATIO OF PERCENT OF TYPE
                                      N=   238            IN GROUP TO % IN SAMPLE.
TABLE D-4

      SENSING TYPES              INTUITIVE TYPES
WITH          WITH          WITH          WITH                        N      %       I
THINKING      FEELING       FEELING       THINKING
-------------------------------------------------------          E   119  50.00   0.96
| I S T J   | I S F J   | I N F J   | I N T J   | J              I   119  50.00   1.05
|           |           |           |           | U
|           |           |           |           | D              S   124  52.10   0.90
| N=   31   | N=   20   | N=    9   | N=   14   | G              N   114  47.90   1.14
|           |           |           |           | I
| %=13.03   | %= 8.40   | %= 3.78   | %= 5.88   | N  I           T   115  48.32   1.06
|           |           |           |           | G  N           F   123  51.68   0.95
| I= 1.60#  | I= 1.31   | I= 1.19   | I= 1.84"  |    T
|           |           |           |           |    R           J   154  64.71   1.45*
-------------------------------------------------------  O           P    84  35.29   0.64*
| I S T P   | I S F P   | I N F P   | I N T P   |    V
|           |           |           |           |    E           IJ   74  31.09   1.49*
|           |           |           |           |    R           IP   45  18.91   0.71#
| N=    4   | N=   13   | N=   20   | N=    8   |    T
|           |           |           |           |    S           EP   39  16.39   0.57*
| %= 1.68   | %= 5.46   | %= 8.40   | %= 3.36   | P              EJ   80  33.61   1.41*
|           |           |           |           | E
| I= 0.31"  | I= 0.71   | I= 0.97   | I= 0.66   | R              ST   64  26.89   0.95
|           |           |           |           | C              SF   60  25.21   0.84
------------------------------------------------------- E
| E S T P   | E S F P   | E N F P   | E N T P   | P              NF   63  26.47   1.08
|           |           |           |           | T              NT   51  21.43   1.24
|           |           |           |           | I
| N=    2   | N=    6   | N=   20   | N=   11   | V              SJ   99  41.60   1.32#
|           |           |           |           | E              SP   25  10.50   0.40*
| %= 0.84   | %= 2.52   | %= 8.40   | %= 4.62   | S  E
|           |           |           |           |    X           NP   59  24.79   0.86
| I= 0.15#  | I= 0.32#  | I= 0.88   | I= 0.84   |    T           NJ   55  23.11   1.77*
|           |           |           |           |    R
-------------------------------------------------------    A           TJ   90  37.82   1.58*
| E S T J   | E S F J   | E N F J   | E N T J   | J  V           TP   25  10.50   0.49*
|           |           |           |           | U  E
|           |           |           |           | D  R           FP   59  24.79   0.73#
| N=   27   | N=   21   | N=   14   | N=   18   | G  T           FJ   64  26.89   1.30"
|           |           |           |           | I  S
| %=11.34   | %= 8.82   | %= 5.88   | %= 7.56   | N              IN   51  21.43   1.07
|           |           |           |           | G              EN   63  26.47   1.22
| I= 1.24   | I= 1.11   | I= 1.81"  | I= 2.19#  |
|           |           |           |           |                IS   68  28.57   1.04
-------------------------------------------------------          ES   56  23.53   0.77"

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
         #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
         *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   MALE HIGH SCHOOL JUNIORS AND SENIORS ON THE CAPT DATA BANK
   BASE TOTAL N =  3907. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

       TYPE TABLE ORDER               E    0.47    IJ  13.78    SJ  10.25    IN   0.24
                                      I    0.47    IP   7.20    SP  30.28    EN   2.94
 6.95     1.48     0.27     4.98                   EP  16.43    NP   1.74    IS   0.11
                                      S    3.37    EJ  11.78    NJ  19.14    ES   5.27
 0.01     1.58     0.01     1.45      N    3.37
                                                   ST   0.18    TJ  23.23
 0.00     9.40     0.34     0.32      T    0.75    SF   2.44    TP  16.42
                                      F    0.75    NF   0.42    FP   8.22
 1.30     0.24     4.73    10.65                   NT   2.71    FJ   5.07
                                      J   36.20
                                      P   36.20
```

```
SOURCE OF DATA:                        GROUP                    MBTI TYPE TABLE
                                     TABULATED:             CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                    OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS            DENTAL STUDENTS:
 HEW CONTRACT 231-76-0051               FEMALES             LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT                                    TOTAL CHOOSING THIS GROUP
                                                            WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                      I = SELFSELECTION INDEX;
                                                            RATIO OF PERCENT OF TYPE
                                         N=    47           IN GROUP TO % IN SAMPLE.
 TABLE D-5

       SENSING TYPES              INTUITIVE TYPES
 WITH          WITH          WITH          WITH                                N       %        I
 THINKING      FEELING       FEELING       THINKING
-----------------------------------------------------------         E        27  57.45     0.93
| I S T J    | I S F J    | I N F J    | I N T J    | J             I        20  42.55     1.11
|            |            |            |            | U
|            |            |            |            | D             S        29  61.70     1.12
| N=    3    | N=    7    | N=    0    | N=    1    | G             N        18  38.30     0.86
|            |            |            |            | I
| %= 6.38    | %=14.89    | %= 0.0     | %= 2.13    | N  I          T        15  31.91     1.53
|            |            |            |            | G  N          F        32  68.09     0.86
| I= 1.88    | I= 1.73    | I= 0.0     | I= 2.08    |    T
|            |            |            |            |    R          J        30  63.83     1.52#
-----------------------------------------------------------  O          P        17  36.17     0.62#
| I S T P    | I S F P    | I N F P    | I N T P    |    V
|            |            |            |            |    E          IJ       11  23.40     1.48
|            |            |            |            |    R          IP        9  19.15     0.85
| N=    1    | N=    3    | N=    2    | N=    3    |    T
|            |            |            |            |    S          EP        8  17.02     0.48#
| %= 2.13    | %= 6.38    | %= 4.26    | %= 6.38    | P             EJ       19  40.43     1.55"
|            |            |            |            | E
| I= 1.16    | I= 0.82    | I= 0.41    | I= 2.55    | R             ST        8  17.02     1.39
|            |            |            |            | C             SF       21  44.68     1.04
----------------------------------------------------------- E
| E S T P    | E S F P    | E N F P    | E N T P    | P             NF       11  23.40     0.65
|            |            |            |            | T             NT        7  14.89     1.74
|            |            |            |            | I
| N=    1    | N=    1    | N=    6    | N=    0    | V             SJ       23  48.94     1.59#
|            |            |            |            | E             SP        6  12.77     0.52
| %= 2.13    | %= 2.13    | %=12.77    | %= 0.0     | S  E
|            |            |            |            |    X          NP       11  23.40     0.70
| I= 0.74    | I= 0.18"   | I= 0.73    | I= 0.0     |    T          NJ        7  14.89     1.34
|            |            |            |            |    R
-----------------------------------------------------------  A          TJ       10  21.28     2.05"
| E S T J    | E S F J    | E N F J    | E N T J    | J  V          TP        5  10.64     1.02
|            |            |            |            | U  E
|            |            |            |            | D  R          FP       12  25.53     0.54#
| N=    3    | N=   10    | N=    3    | N=    3    | G  T          FJ       20  42.55     1.35
|            |            |            |            | I  S
| %= 6.38    | %=21.28    | %= 6.38    | %= 6.38    | N             IN        6  12.77     0.77
|            |            |            |            | G             EN       12  25.53     0.91
| I= 1.53    | I= 1.45    | I= 1.17    | I= 3.54    |
|            |            |            |            |               IS       14  29.79     1.38
-----------------------------------------------------------         ES       15  31.91     0.95

    NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
          "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
          #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
          *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

    BASE POPULATION USED IN CALCULATING SELECTION RATIO:
    FEMALE HIGH SCHOOL JUNIORS AND SENIORS ON THE CAPT DATA BANK
    BASE TOTAL N =  2831. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

         TYPE TABLE ORDER            E     0.36    IJ    1.98    SJ    7.10    IN    0.51
                                     I     0.36    IP    0.29    SP    3.47    EN    0.14
 0.40      2.29      0.40      0.39                EP    7.01    NP    2.16    IS    1.81
                                     S     0.76    EJ    4.92    NJ    0.67    ES    0.07
 0.99      0.79      0.22      0.12  N     0.76
                                                   ST    0.97    TJ    5.81
 0.99      0.04      0.72      0.27  T     3.42    SF    0.05    TP    0.99
                                     F     3.42    NF    3.24    FP    9.07
 0.44      1.63      0.29      0.06                NT    2.32    FJ    2.61
                                     J     9.12
                                     P     9.12
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

PRACTICING DENTISTS

N= 52

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE D-6

SENSING TYPES		INTUITIVE TYPES		
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING	
I S T J N= 8 %=15.38 I= 1.22	I S F J N= 7 %=13.46 I= 1.41	I N F J N= 2 %= 3.85 I= 0.96	I N T J N= 5 %= 9.62 I= 1.70	JUDGING INTROVERTS
I S T P N= 0 %= 0.0 I= 0.0	I S F P N= 1 %= 1.92 I= 0.54	I N F P N= 2 %= 3.85 I= 0.67	I N T P N= 3 %= 5.77 I= 1.55	PERCEPTIVES
E S T P N= 0 %= 0.0 I= 0.0	E S F P N= 1 %= 1.92 I= 0.62	E N F P N= 3 %= 5.77 I= 0.88	E N T P N= 2 %= 3.85 I= 0.92	EXTRAVERTS
E S T J N= 6 %=11.54 I= 0.86	E S F J N= 3 %= 5.77 I= 0.49	E N F J N= 3 %= 5.77 I= 1.11	E N T J N= 6 %=11.54 I= 1.71	JUDGING

	N	%	I
E	24	46.15	0.87
I	28	53.85	1.14
S	26	50.00	0.86
N	26	50.00	1.20
T	30	57.69	1.14
F	22	42.31	0.86
J	40	76.92	1.12
P	12	23.08	0.74
IJ	22	42.31	1.33
IP	6	11.54	0.75
EP	6	11.54	0.73
EJ	18	34.62	0.93
ST	14	26.92	0.89
SF	12	23.08	0.83
NF	10	19.23	0.89
NT	16	30.77	1.52
SJ	24	46.15	0.97
SP	2	3.85	0.35
NP	10	19.23	0.95
NJ	16	30.77	1.43
TJ	25	48.08	1.25
TP	5	9.62	0.79
FP	7	13.46	0.71
FJ	15	28.85	0.95
IN	12	23.08	1.21
EN	14	26.92	1.19
IS	16	30.77	1.10
ES	10	19.23	0.64

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF DENTISTS AND DENTAL STUDENTS
BASE TOTAL N = 1098. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.37	0.96	0.99	0.21
0.40	0.71	0.76	0.43
0.61	0.72	0.99	0.99
0.18	0.19	0.99	2.00

E	0.97	IJ	2.74	SJ	0.03	IN	0.55
I	0.97	IP	0.60	SP	0.11	EN	0.56
		EP	0.73	NP	0.03	IS	0.20
S	1.51	EJ	0.14	NJ	2.72	ES	3.09
N	1.51						
		ST	0.30	TJ	2.10		
T	1.09	SF	0.62	TP	0.66		
F	1.09	NF	0.17	FP	1.07		
		NT	3.69	FJ	0.06		
J	1.62						
P	1.62						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

DENTAL ASSISTANT
STUDENTS

N= 58

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE. I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE D-7

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 2 %= 3.45 I= 1.02	I S F J N= 9 %=15.52 I= 1.80	I N F J N= 0 %= 0.0 I= 0.0	I N T J N= 0 %= 0.0 I= 0.0	JUDGING INTROVERTS
I S T P N= 1 %= 1.72 I= 0.94	I S F P N= 6 %=10.34 I= 1.33	I N F P N= 3 %= 5.17 I= 0.50	I N T P N= 0 %= 0.0 I= 0.0	PERCEPTIVES INTROVERTS
E S T P N= 0 %= 0.0 I= 0.0	E S F P N= 7 %=12.07 I= 1.00	E N F P N= 7 %=12.07 I= 0.69	E N T P N= 1 %= 1.72 I= 0.53	PERCEPTIVES EXTRAVERTS
E S T J N= 5 %= 8.62 I= 2.07	E S F J N= 11 %=18.97 I= 1.30	E N F J N= 4 %= 6.90 I= 1.26	E N T J N= 2 %= 3.45 I= 1.91	JUDGING EXTRAVERTS

	N	%	I
E	37	63.79	1.03
I	21	36.21	0.95
S	41	70.69	1.28"
N	17	29.31	0.66"
T	11	18.97	0.91
F	47	81.03	1.02
J	33	56.90	1.36"
P	25	43.10	0.74"
IJ	11	18.97	1.20
IP	10	17.24	0.77
EP	15	25.86	0.73
EJ	22	37.93	1.46"
ST	8	13.79	1.13
SF	33	56.90	1.32"
NF	14	24.14	0.67
NT	3	5.17	0.60
SJ	27	46.55	1.51"
SP	14	24.14	0.98
NP	11	18.97	0.56"
NJ	6	10.34	0.93
TJ	9	15.52	1.49
TP	2	3.45	0.33
FP	23	39.66	0.83
FJ	24	41.38	1.31
IN	3	5.17	0.31"
EN	14	24.14	0.86
IS	18	31.03	1.44
ES	23	39.66	1.18

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
FEMALE HIGH SCHOOL JUNIORS AND SENIORS ON THE CAPT DATA BANK
BASE TOTAL N = 2831. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.99	3.38	0.27	0.66
0.99	0.52	0.27	0.40
0.27	0.00	1.16	0.72
0.10	0.85	0.76	0.62

E	0.10	IJ	0.42	SJ	6.58	IN	0.02
I	0.10	IP	0.89	SP	0.00	EN	0.42
S	5.44	EP	2.38	NP	5.47	IS	2.96
N	5.44	EJ	4.13	NJ	0.03	ES	0.90
T	0.12	ST	0.12	TJ	1.59		
F	0.12	SF	4.43	TP	0.12		
J	5.25	NF	3.54	FP	1.46		
P	5.25	NT	0.47	FJ	2.56		

```
SOURCE OF DATA:                         GROUP                       MBTI TYPE TABLE
                                      TABULATED:               CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY. PH.D.                                        OF PSYCHOLOGICAL TYPE
  ANC CTHER CONTRIBUTORS               PRACTICING
 HEW CCNTRACT 231-76-0051           DENTAL ASSISTANTS          LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT                                       TOTAL CHOOSING THIS GROUP
                                                               WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                         I = SELFSELECTION INDEX:
                                                               RATIO OF PERCENT OF TYPE
                                           N=    36            IN GROUP TO % IN SAMPLE.
 TABLE D-8

       SENSING TYPES                 INTUITIVE TYPES
 WITH            WITH            WITH            WITH                              N     %       I
 THINKING        FEELING         FEELING         THINKING
 ----------------------------------------------------------------          E      21  58.33   0.95
 | I S T J      | I S F J      | I N F J      | I N T J      |  J          I      15  41.67   1.09
 |              |              |              |              |  U
 |              |              |              |              |  D          S      22  61.11   1.10
 | N=    0      | N=    4      | N=    2      | N=    1      |  G          N      14  38.89   0.87
 |              |              |              |              |  I
 | %= 0.0       | %=11.11      | %= 5.56      | %= 2.78      |  N I        T       8  22.22   1.07
 |              |              |              |              |  G N        F      28  77.78   0.98
 | I= 0.0       | I= 1.29      | I= 1.99      | I= 2.71      |    T
 |              |              |              |              |    R        J      19  52.78   1.26
 ----------------------------------------------------------------    O        P      17  47.22   0.81
 | I S T P      | I S F P      | I N F P      | I N T P      |    V
 |              |              |              |              |    E        IJ      7  19.44   1.23
 |              |              |              |              |    R        IP      8  22.22   0.99
 | N=    2      | N=    3      | N=    2      | N=    1      |    T
 |              |              |              |              |    S        EP      9  25.00   0.70
 | %= 5.56      | %= 8.33      | %= 5.56      | %= 2.78      |  P          EJ     12  33.33   1.28
 |              |              |              |              |  E
 | I= 3.02      | I= 1.07      | I= 0.54      | I= 1.11      |  R          ST      6  16.67   1.36
 |              |              |              |              |  C          SF     16  44.44   1.03
 ----------------------------------------------------------------  E
 | E S T P      | E S F P      | E N F P      | E N T P      |  P          NF     12  33.33   0.92
 |              |              |              |              |  T          NT      2   5.56   0.65
 |              |              |              |              |  I
 | N=    0      | N=    3      | N=    6      | N=    0      |  V          SJ     14  38.89   1.26
 |              |              |              |              |  E          SP      8  22.22   0.91
 | %= 0.0       | %= 8.33      | %=16.67      | %= 0.0       |  S E
 |              |              |              |              |    X        NP      9  25.00   0.74
 | I= 0.0       | I= 0.69      | I= 0.95      | I= 0.0       |    T        NJ      5  13.89   1.25
 |              |              |              |              |    R
 ----------------------------------------------------------------    A        TJ      5  13.89   1.34
 | E S T J      | E S F J      | E N F J      | E N T J      |  J V        TP      3   8.33   0.80
 |              |              |              |              |  U E
 |              |              |              |              |  D R        FP     14  38.89   0.82
 | N=    4      | N=    6      | N=    2      | N=    0      |  G T        FJ     14  38.89   1.23
 |              |              |              |              |  I S
 | %=11.11      | %=16.67      | %= 5.56      | %= 0.0       |  N          IN      6  16.67   1.00
 |              |              |              |              |  G          EN      8  22.22   0.79
 | I= 2.67      | I= 1.14      | I= 1.01      | I= 0.0       |
 |              |              |              |              |             IS      9  25.00   1.16
 ----------------------------------------------------------------             ES     13  36.11   1.07

    NCTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. >  3.8;
         #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. >  6.6;
         *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

    BASE POPULATION USED IN CALCULATING SELECTION RATIO:
    FEMALE HIGH SCHCCL JUNIORS AND SENIORS ON THE CAPT DATA BANK
    BASE TOTAL N =  2831. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

       TYPE TABLE ORDER                E    0.17    IJ   0.35    SJ   1.09    IN   0.00
                                       I    0.17    IP   0.00    SP   0.10    EN   0.59
  0.41     0.76     0.62     0.32                   EP   1.76    NP   1.18    IS   0.24
                                       S    0.48    EJ   0.97    NJ   0.79    ES   0.09
  0.15     1.00     0.42     1.00      N    0.48
                                                    ST   0.64    TJ   0.57
  0.43     0.61     0.02     0.41      T    0.04    SF   0.03    TP   0.79
                                       F    0.04    NF   0.12    FP   1.09
  0.06     0.12     1.00     0.65                   NT   0.58    FJ   0.90
                                       J    1.73
                                       P    1.73
```

```
SOURCE OF DATA:                     GROUP                  MBTI TYPE TABLE
                                   TABULATED:             CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                   OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS          DENTAL HYGIENE
 HEW CONTRACT 231-76-0051           STUDENTS              LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT                                  TOTAL CHOOSING THIS GROUP
                                                          WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                    I = SELFSELECTION INDEX;
                                                          RATIO OF PERCENT OF TYPE
                                   N=    77               IN GROUP TO % IN SAMPLE.
 TABLE D-9

       SENSING TYPES               INTUITIVE TYPES
 WITH          WITH          WITH           WITH                          N     %       I
 THINKING      FEELING       FEELING        THINKING
 ---------------------------------------------------------
| I S T J    | I S F J    | I N F J    | I N T J    |  J          E     42  54.55   0.88
|            |            |            |            |  U          I     35  45.45   1.19
|            |            |            |            |  D
| N=    1    | N=   18    | N=    2    | N=    2    |  G          S     54  70.13   1.27#
|            |            |            |            |  I          N     23  29.87   0.67#
| %=  1.30   | %=23.38    | %=  2.60   | %=  2.60   |  N  I
|            |            |            |            |  G  N       T     15  19.48   0.93
| I=  0.38   | I=  2.71*  | I=  0.93   | I=  2.54   |     T       F     62  80.52   1.02
|            |            |            |            |     R
 ---------------------------------------------------------   O       J     48  62.34   1.49*
| I S T P    | I S F P    | I N F P    | I N T P    |     V       P     29  37.66   0.65*
|            |            |            |            |     E
|            |            |            |            |     R       IJ    23  29.87   1.89*
| N=    0    | N=    5    | N=    6    | N=    1    |     T       IP    12  15.58   0.69
|            |            |            |            |     S
| %=  0.0    | %=  6.49   | %=  7.79   | %=  1.30   |  P          EP    17  22.08   0.62"
|            |            |            |            |  E          EJ    25  32.47   1.25
| I=  0.0    | I=  0.84   | I=  0.75   | I=  0.52   |  R
|            |            |            |            |  C          ST    11  14.29   1.17
 ---------------------------------------------------------   E       SF    43  55.84   1.30"
| E S T P    | E S F P    | E N F P    | E N T P    |  P
|            |            |            |            |  T          NF    19  24.68   0.68"
|            |            |            |            |  I          NT     4   5.19   0.61
| N=    2    | N=    7    | N=    7    | N=    1    |  V
|            |            |            |            |  E          SJ    40  51.95   1.69*
| %=  2.60   | %=  9.09   | %=  9.09   | %=  1.30   |  S  E       SP    14  18.18   0.74
|            |            |            |            |     X
| I=  0.91   | I=  0.[illegible]5 | I=  0.52   | I=  0.40   |     T       NP    15  19.48   0.58#
|            |            |            |            |     R       NJ     8  10.39   0.94
 ---------------------------------------------------------   A
| E S T J    | E S F J    | E N F J    | E N T J    |  J  V       TJ    11  14.29   1.38
|            |            |            |            |  U  E       TP     4   5.19   0.50
|            |            |            |            |  D  R
| N=    8    | N=   13    | N=    4    | N=    0    |  G  T       FP    25  32.47   0.68#
|            |            |            |            |  I  S       FJ    37  48.05   1.53#
| %=10.39    | %=16.88    | %=  5.19   | %=  0.0    |  N
|            |            |            |            |  G          IN    11  14.29   0.86
| I=  2.49#  | I=  1.15   | I=  0.95   | I=  0.0    |             EN    12  15.58   0.56"
|            |            |            |            |
 ---------------------------------------------------------           IS    24  31.17   1.44"
                                                                      ES    30  38.96   1.16

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   FEMALE HIGH SCHOOL JUNIORS AND SENIORS ON THE CAPT DATA BANK
   BASE TOTAL N =  2831. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

         TYPE TABLE ORDER              E    1.63    IJ  10.89    SJ  15.57    IN   0.31
                                       I    1.63    IP   2.05    SP   1.63    EN   5.78
  0.37     19.91     1.00     0.29                  EP   6.04    NP   6.73    IS   4.00
                                       S    6.67    EJ   1.59    NJ   0.04    ES   0.93
  0.40      0.82     0.53     0.72     N    6.67
                                                    ST   0.29    TJ   1.21
  1.00      0.62     3.70     0.51     T    0.08    SF   4.99    TP   0.19
                                       F    0.08    NF   4.26    FP   6.93
  7.00      0.31     0.99     0.40                  NT   0.32    FJ   9.44
                                       J   12.83
                                       P   12.83
```

Appendix E

Nursing and Allied Fields

Table Number	Name of Group Tabulated	Number in Group	Compared to Base
E 1	All Nursing Students and Practitioners	10,260	32,271
E 2	All Nursing Students	7,625	6,738
E 3	Students for Whom Sex is Known	5,405	7,625
E 4	Nursing Students: Males	198	3,907
E 5	Nursing Students: Females	5,207	2,831
E 6	Students in Licensed Practical Nurse Programs	70	7,625
E 7	Students in Two-Year Programs	1,345	7,625
E 8	Students in Diploma Programs (Myers' Data)	3,171	7,625
E 9	Students in Baccalaureate Programs	2,074	7,625
E 10	Students in Graduate Degree Programs	565	7,625
E 11	All Practitioners in Nursing	2,635	10,260
E 12	Practitioners for Whom Sex is Known	840	2,635
E 13	Registered Nurses: Males	33	840
E 14	Registered Nurses: Females	807	840
E 15	Nursing Assistants	171	2,635
E 16	Licensed Practical Nurses	113	2,635
E 17	Registered Nurses	2,351	2,635
E 18	Nurses with Baccalaureate Degrees	330	2,635
E 19	Nurses with Graduate Degrees	276	2,635
E 20	Nursing Administrators and Consultants	204	2,635
E 21	Nursing Educators	294	2,635
E 22	Nurses: Maternal and Child Care	68	2,635
E 23	Nurses: Medical-Surgical	119	2,635
E 24	Nurses: Psychiatric	79	2,635
E 25	Nursing Work Setting: Hospital Nurses	528	2,635
E 26	Nursing Work Setting: School and Public Health	95	2,635

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

COMPOSITE: STUDENTS
AND PRACTITIONERS IN
NURSING AND
ALLIED FIELDS

N=10260

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE E-1

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
ISTJ N= 734 %= 7.15 I= 0.86*	ISFJ N=1358 %=13.24 I= 1.26*	INFJ N= 464 %= 4.52 I= 0.85*	INTJ N= 208 %= 2.03 I= 0.50*	JUDGING INTROVERTS
ISTP N= 195 %= 1.90 I= 0.81*	ISFP N= 593 %= 5.78 I= 1.27*	INFP N= 788 %= 7.68 I= 0.88*	INTP N= 198 %= 1.93 I= 0.52*	PERCEPTIVES INTROVERTS
ESTP N= 186 %= 1.81 I= 0.95	ESFP N= 616 %= 6.00 I= 1.30*	ENFP N=1165 %=11.35 I= 1.00	ENTP N= 263 %= 2.56 I= 0.71*	PERCEPTIVES EXTRAVERTS
ESTJ N= 771 %= 7.51 I= 0.97	ESFJ N=1687 %=16.44 I= 1.45*	ENFJ N= 743 %= 7.24 I= 1.00	ENTJ N= 291 %= 2.84 I= 0.62*	JUDGING EXTRAVERTS

	N	%	I
E	5722	55.77	1.06*
I	4538	44.23	0.93*
S	6140	59.84	1.16*
N	4120	40.16	0.83*
T	2846	27.74	0.76*
F	7414	72.26	1.13*
J	6256	60.97	1.03*
P	4004	39.03	0.96*
IJ	2764	26.94	0.95*
IP	1774	17.29	0.89*
EP	2230	21.73	1.01
EJ	3492	34.04	1.10*
ST	1886	18.38	0.90*
SF	4254	41.46	1.34*
NF	3160	30.80	0.94*
NT	960	9.36	0.59*
SJ	4550	44.35	1.17*
SP	1590	15.50	1.15*
NP	2414	23.53	0.86*
NJ	1706	16.63	0.78*
TJ	2004	19.53	0.79*
TP	842	8.21	0.71*
FP	3162	30.82	1.05*
FJ	4252	41.44	1.20*
IN	1658	16.16	0.74*
EN	2462	24.00	0.90*
IS	2880	28.07	1.09*
ES	3260	31.77	1.24*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS & PRACTITIONERS IN ALL HEALTH AND HEALTH RELATED FIELDS.
BASE TOTAL N = 32271, SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

28.44	117.84	20.28	159.86
12.85	51.29	21.36	131.57
0.89	66.02	0.02	48.33
1.11	393.81	0.00	104.96

E 69.75
I 69.75

S 431.97
N 431.97

T 479.31
F 479.31

J 19.99
P 19.99

IJ 13.49
IP 40.60
EP 0.61
EJ 69.49

ST 36.36
SF 767.74
NF 23.78
NT 489.22

SJ 262.41
SP 54.93
NP 112.27
NJ 191.68

TJ 219.64
TP 166.92
FP 18.12
FJ 327.02

IN 285.17
EN 59.30
IS 41.17
ES 301.82

```
SOURCE OF DATA:                         GROUP                    MBTI TYPE TABLE
                                      TABULATED:             CENTER FOR APPLICATIONS
  MARY H. MCCAULLEY, PH.D.                                    OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS            COMPOSITE OF
  HEW CONTRACT 231-76-0051           STUDENTS IN             LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT             NURSING AND             TOTAL CHOOSING THIS GROUP
                                    ALLIED FIELDS            WHO FALL INTO THIS TYPE.
  TABLE CREATED 7/31/77                                      I = SELFSELECTION INDEX:
                                                             RATIO OF PERCENT OF TYPE
                                       N= 7625               IN GROUP TO % IN SAMPLE.
  TABLE E-2

      SENSING TYPES             INTUITIVE TYPES
 WITH          WITH          WITH          WITH                          N      %       I
 THINKING      FEELING       FEELING       THINKING
 -------------------------------------------------              E    4450  58.36   1.04"
| I S T J    | I S F J    | I N F J    | I N T J    | J          I    3175  41.64   0.95"
|            |            |            |            | U
|            |            |            |            | D          S    4609  60.45   1.06*
| N= 496     | N= 956     | N= 342     | N= 127     | G          N    3016  39.55   0.92*
|            |            |            |            | I
| %= 6.50    | %=12.54    | %= 4.49    | %= 1.67    | N I        T    1995  26.16   0.75*
|            |            |            |            | G N        F    5630  73.84   1.14*
| I= 1.06    | I= 1.71*   | I= 1.49*   | I= 0.73#   |   T
|            |            |            |            |   R        J    4666  61.19   1.41*
 -------------------------------------------------    O        P    2959  38.81   0.69*
| I S T P    | I S F P    | I N F P    | I N T P    |   V
|            |            |            |            |   E        IJ   1921  25.19   1.34*
|            |            |            |            |   R        IP   1254  16.45   0.66*
| N= 122     | N= 422     | N= 581     | N= 129     |   T
|            |            |            |            |   S        EP   1705  22.36   0.71*
| %= 1.60    | %= 5.53    | %= 7.62    | %= 1.69    | P          EJ   2745  36.00   1.46*
|            |            |            |            | E
| I= 0.41*   | I= 0.72*   | I= 0.81*   | I= 0.42*   | R          ST   1351  17.72   0.82*
|            |            |            |            | C          SF   3258  42.73   1.20*
 -------------------------------------------------  E
| E S T P    | E S F P    | E N F P    | E N T P    | P          NF   2372  31.11   1.06"
|            |            |            |            | T          NT    644   8.45   0.62*
|            |            |            |            | I
| N= 144     | N= 506     | N= 867     | N= 188     | V          SJ   3415  44.79   1.43*
|            |            |            |            | E          SP   1194  15.66   0.61*
| %= 1.89    | %= 6.64    | %=11.37    | %= 2.47    | S E
|            |            |            |            |   X        NP   1765  23.15   0.75*
| I= 0.43*   | I= 0.69*   | I= 0.88#   | I= 0.56*   |   T        NJ   1251  16.41   1.34*
|            |            |            |            |   R
 -------------------------------------------------    A        TJ   1412  18.52   1.02
| E S T J    | E S F J    | E N F J    | E N T J    | J V        TP    583   7.65   0.45*
|            |            |            |            | U E
|            |            |            |            | D R        FP   2376  31.16   0.79*
| N= 589     | N=1374     | N= 582     | N= 200     | G T        FJ   3254  42.68   1.69*
|            |            |            |            | I S
| %= 7.72    | %=18.02    | %= 7.63    | %= 2.62    | N          IN   1179  15.46   0.83*
|            |            |            |            | G          EN   1837  24.09   0.99
| I= 1.10    | I= 1.68*   | I= 1.82*   | I= 0.95    |
|            |            |            |            |            IS   1996  26.18   1.04
 -------------------------------------------------             ES   2613  34.27   1.07#

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
   BASE TOTAL N =  6738. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER              E    6.53    IJ  85.39    SJ 276.15    IN  26.13
                                      I    6.53    IP 160.07    SP 221.94    EN   0.15
  0.78   106.82    21.25     7.17                  EP 153.10    NP 106.82    IS   2.25
                                      S   17.94    EJ 213.09    NJ  50.13    ES   9.22
 71.99    27.82    13.87    71.74     N   17.94
                                                   ST  32.44    TJ   0.18
 76.29    44.61     7.70    46.41     T  135.09    SF  78.96    TP 288.22
                                      F  135.09    NF   4.77    FP 112.48
  2.38   151.76    75.20     0.26                  NT  98.45    FJ 479.22
                                      J  448.71
                                      P  448.71
```

```
SOURCE OF DATA:                            GROUP                    MBTI TYPE TABLE
                                         TABULATED:             CENTER FOR APPLICATIONS
MARY H. MCCAULLEY, PH.D.                                          OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS                NURSING STUDENTS
HEW CONTRACT 231-76-0051                 FOR WHOM               LEGEND: % = PERCENT OF
 AMSA FOUNDATION - CAPT                 SEX IS KNOWN            TOTAL CHOOSING THIS GROUP
                                                                WHO FALL INTO THIS TYPE.
TABLE CREATED 7/31/77                                           I = SELFSELECTION INDEX;
                                                                RATIO OF PERCENT OF TYPE
                                          N= 5405               IN GROUP TO % IN SAMPLE.
TABLE E-3

        SENSING TYPES                                INTUITIVE TYPES
  WITH                   WITH                   WITH                   WITH                                  N      %    I
  THINKING               FEELING                FEELING                THINKING
---------------------------------------------------------------------------------------------        E    3251  60.15  1.03*
| I S T J              | I S F J              | I N F J              | I N T J              |  J     I    2154  39.85  0.96*
|                      |                      |                      |                      |  U
|                      |                      |                      |                      |  D     S    3282  60.72  1.00
| N= 340               | N= 622               | N= 233               | N=  89               |  G     N    2123  39.28  0.99
|                      |                      |                      |                      |  I
| %= 6.29              | %=11.51              | %= 4.31              | %= 1.65              |  N I   T    1425  26.36  1.01
|                      |                      |                      |                      |  G N   F    3980  73.64  1.00
| I= 0.97              | I= 0.92*             | I= 0.96              | I= 0.99              |    T
|                      |                      |                      |                      |    R   J    3316  61.35  1.00
---------------------------------------------------------------------------------------------    O   P    2089  38.65  1.00
| I S T P              | I S F P              | I N F P              | I N T P              |    V
|                      |                      |                      |                      |    E   IJ   1284  23.76  0.94*
|                      |                      |                      |                      |    R   IP    870  16.10  0.98
| N=  91               | N= 301               | N= 404               | N=  74               |    T
|                      |                      |                      |                      |    S   EP   1219  22.55  1.01
| %= 1.68              | %= 5.57              | %= 7.47              | %= 1.37              |  P     EJ   2032  37.59  1.04*
|                      |                      |                      |                      |  E
| I= 1.05              | I= 1.01              | I= 0.98              | I= 0.81*             |  R     ST    981  18.15  1.02
|                      |                      |                      |                      |  C     SF   2301  42.57  1.00
---------------------------------------------------------------------------------------------  E
| E S T P              | E S F P              | E N F P              | E N T P              |  P     NF   1679  31.06  1.00
|                      |                      |                      |                      |  T     NT    444   8.21  0.97
|                      |                      |                      |                      |  I
| N= 104               | N= 347               | N= 641               | N= 127               |  V     SJ   2439  45.12  1.01
|                      |                      |                      |                      |  E     SP    843  15.60  1.00
| %= 1.92              | %= 6.42              | %=11.86              | %= 2.35              |  S E
|                      |                      |                      |                      |    X   NP   1246  23.05  1.00
| I= 1.02              | I= 0.97              | I= 1.04"             | I= 0.95              |    T   NJ    877  16.23  0.99
|                      |                      |                      |                      |    R
---------------------------------------------------------------------------------------------    A   TJ   1029  19.04  1.03
| E S T J              | E S F J              | E N F J              | E N T J              |  J V   TP    396   7.33  0.96
|                      |                      |                      |                      |  U E
|                      |                      |                      |                      |  D R   FP   1693  31.32  1.01
| N= 446               | N=1031               | N= 401               | N= 154               |  G T   FJ   2287  42.31  0.99
|                      |                      |                      |                      |  I S
| %= 8.25              | %=19.07              | %= 7.42              | %= 2.85              |  N     IN    800  14.80  0.96"
|                      |                      |                      |                      |  G     EN   1323  24.48  1.02
| I= 1.07#             | I= 1.06*             | I= 0.97              | I= 1.09              |
|                      |                      |                      |                      |        IS   1354  25.05  0.96*
---------------------------------------------------------------------------------------------        ES   1928  35.67  1.04*

    NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
          "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
          #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
          *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
   (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

    BASE POPULATION USED IN CALCULATING SELECTION RATIO:
    COMPOSITE OF STUDENTS IN NURSING AND ALLIED FIELDS
    BASE TOTAL N =  7625. SAMPLE AND BASE ARE DEPENDENT.

  * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

         TYPE TABLE ORDER                  E   24.41    IJ  20.36    SJ   0.86    IN   6.21
                                           I   24.41    IP   1.65    SP   0.05    EN   1.51
  1.40     17.96      1.32      0.04                    EP   0.40    NP   0.09    IS  12.18
                                           S    0.59    EJ  20.49    NJ   0.44    ES  16.20
  0.82      0.04      0.56     11.62       N    0.59
                                                        ST   2.37    TJ   3.33
  0.13      1.40      4.40      1.04       T    0.39    SF   0.19    TP   2.68
                                           F    0.39    NF   0.02    FP   0.23
  7.23     13.99      1.20      3.72                    NT   1.28    FJ   1.00
                                           J    0.19
                                           P    0.19
```

```
SOURCE OF DATA:                          GROUP                    MBTI TYPE TABLE
                                       TABULATED:             CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY. PH.D.                                      OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS             NURSING STUDENTS
 HEW CONTRACT 231-76-0051                 MALES               LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT                                      TOTAL CHOOSING THIS GROUP
                                                              WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                        I = SELFSELECTION INDEX;
                                                              RATIO OF PERCENT OF TYPE
                                          N=  198             IN GROUP TO % IN SAMPLE.
 TABLE E-4


      SENSING TYPES                 INTUITIVE TYPES
 WITH           WITH            WITH            WITH                        N     %       I
 THINKING       FEELING         FEELING         THINKING
-------------------------------------------------------------          E   105 53.03   1.01
| I S T J     | I S F J     | I N F J     | I N T J     |  J         I    93 46.97   0.98
|             |             |             |             |  U
|             |             |             |             |  D         S   110 55.56   0.96
| N=   20     | N=    8     | N=    6     | N=    6     |  G         N    88 44.44   1.06
|             |             |             |             |  I
| %=10.10     | %= 4.04     | %= 3.03     | %= 3.03     |  N I       T    90 45.45   1.00
|             |             |             |             |  G N       F   108 54.55   1.00
| I= 1.24     | I= 0.63     | I= 0.95     | I= 0.95     |    T
|             |             |             |             |    R       J   104 52.53   1.18"
-------------------------------------------------------------      O   P    94 47.47   0.86"
| I S T P     | I S F P     | I N F P     | I N T P     |    V
|             |             |             |             |    E       IJ   40 20.20   0.97
|             |             |             |             |    R       IP   53 26.77   1.00
| N=    9     | N=   14     | N=   21     | N=    9     |    T
|             |             |             |             |    S       EP   41 20.71   0.73"
| %= 4.55     | %= 7.07     | %=10.61     | %= 4.55     |  P         EJ   64 32.32   1.36#
|             |             |             |             |  E
| I= 0.85     | I= 0.92     | I= 1.23     | I= 0.89     |  R         ST   58 29.29   1.04
|             |             |             |             |  C         SF   52 26.26   0.88
-------------------------------------------------------------  E
| E S T P     | E S F P     | E N F P     | E N T P     |  P         NF   56 28.28   1.15
|             |             |             |             |  T         NT   32 16.16   0.94
|             |             |             |             |  I
| N=    9     | N=    8     | N=   16     | N=    8     |  V         SJ   70 35.35   1.12
|             |             |             |             |  E         SP   40 20.20   0.76"
| %= 4.55     | %= 4.04     | %= 8.08     | %= 4.04     |  S E
|             |             |             |             |    X       NP   54 27.27   0.95
| I= 0.82     | I= 0.51"    | I= 0.85     | I= 0.74     |    T       NJ   34 17.17   1.31
|             |             |             |             |    R
-------------------------------------------------------------    A     TJ   55 27.78   1.16
| E S T J     | E S F J     | E N F J     | E N T J     |  J V       TP   35 17.68   0.82
|             |             |             |             |  U E
|             |             |             |             |  D R       FP   59 29.80   0.88
| N=   20     | N=   22     | N=   13     | N=    9     |  G T       FJ   49 24.75   1.19
|             |             |             |             |  I S
| %=10.10     | %=11.11     | %= 6.57     | %= 4.55     |  N         IN   42 21.21   1.05
|             |             |             |             |  G         EN   46 23.23   1.07
| I= 1.11     | I= 1.40     | I= 2.02"    | I= 1.32     |
|             |             |             |             |            IS   51 25.76   0.93
-------------------------------------------------------------          ES   59 29.80   0.98

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
_  (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   MALE HIGH SCHOOL JUNIORS AND SENIORS ON THE CAPT DATA BANK
   BASE TOTAL N =  3907. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

       TYPE TABLE ORDER              E   0.04   IJ   0.06   SJ   1.22   IN   0.14
                                     I   0.04   IP   0.00   SP   3.91   EN   0.25
 0.96     1.78     0.01     0.02                EP   5.68   NP   0.21   IS   0.32
                                     S   0.52   EJ   7.50   NJ   2.74   ES   0.05
 0.26     0.10     0.93     0.13     N   0.52
                                                ST   0.12   TJ   1.52
 0.35     4.04     0.47     0.76     T   0.00   SF   1.24   TP   1.64
                                     F   0.00   NF   1.37   FP   1.36
 0.21     2.56     6.29     0.66                NT   0.16   FJ   1.81
                                     J   4.67
                                     P   4.67
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

NURSING STUDENTS
FEMALES

N= 5207

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE E-5

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 320 %= 6.15 I= 1.81*	I S F J N= 614 %=11.79 I= 1.37*	I N F J N= 227 %= 4.36 I= 1.56*	I N T J N= 83 %= 1.59 I= 1.56"	INTROVERTS JUDGING
I S T P N= 82 %= 1.57 I= 0.86	I S F P N= 287 %= 5.51 I= 0.71*	I N F P N= 383 %= 7.36 I= 0.71*	I N T P N= 65 %= 1.25 I= 0.50*	INTROVERTS PERCEPTIVES
E S T P N= 95 %= 1.82 I= 0.64#	E S F P N= 339 %= 6.51 I= 0.54*	E N F P N= 625 %=12.00 I= 0.69*	E N T P N= 119 %= 2.29 I= 0.70#	EXTRAVERTS PERCEPTIVES
E S T J N= 426 %= 8.18 I= 1.96*	E S F J N=1009 %=19.38 I= 1.33*	E N F J N= 388 %= 7.45 I= 1.36*	E N T J N= 145 %= 2.78 I= 1.55#	EXTRAVERTS JUDGING

	N	%	I
E	3146	60.42	0.98
I	2061	39.58	1.03
S	3172	60.92	1.10*
N	2035	39.08	0.87*
T	1335	25.64	1.23*
F	3872	74.36	0.94*
J	3212	61.69	1.47*
P	1995	38.31	0.66*
IJ	1244	23.89	1.51*
IP	817	15.69	0.70*
EP	1178	22.62	0.63*
EJ	1968	37.80	1.45*
ST	923	17.73	1.45*
SF	2249	43.19	1.00
NF	1623	31.17	0.86*
NT	412	7.91	0.92
SJ	2369	45.50	1.48*
SP	803	15.42	0.63*
NP	1192	22.89	0.68*
NJ	843	16.19	1.46*
TJ	974	18.71	1.80*
TP	361	6.93	0.66*
FP	1634	31.38	0.66*
FJ	2238	42.98	1.36*
IN	758	14.56	0.87"
EN	1277	24.52	0.88*
IS	1303	25.02	1.16*
ES	1869	35.89	1.07"

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
FEMALE HIGH SCHOOL JUNIORS AND SENIORS ON THE CAPT DATA BANK
BASE TOTAL N = 2831. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

```
         TYPE TABLE ORDER                E     1.28    IJ   71.80    SJ 164.57    IN    6.33
                                         I     1.28    IP   56.84    SP 100.05    EN   11.66
28.35     19.36     12.33      4.33                    EP 156.92    NP 107.39    IS   11.72
                                         S   23.78    EJ 112.93    NJ   38.68    ES    3.88
 0.77     15.84     21.35     17.49     N   23.78
                                                       ST   41.23    TJ   95.56
 9.20     72.54     45.96      6.67     T   23.18    SF    0.01    TP   30.32
                                         F   23.18    NF   20.20    FP 208.01
46.81     28.45     11.37      7.45                    NT    1.10    FJ 101.51
                                         J 289.96
                                         P 289.96
```

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SOURCE OF DATA:                              GROUP                      MBTI TYPE TABLE
                                           TABULATED:               CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY. PH.D.                                            OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS                  NURSING STUDENTS
 HEW CONTRACT 231-76-0051              LICENSED PRACTICAL           LEGEND: % = PERCENT OF
 AMSA FOUNDATION - CAPT                 NURSING PROGRAMS            TOTAL CHOOSING THIS GROUP
                                                                    WHO FALL INTO THIS TYPE.
TABLE CREATED 7/31/77                                               I = SELFSELECTION INDEX:
                                                                    RATIO OF PERCENT OF TYPE
                                             N=    70               IN GROUP TO % IN SAMPLE.
TABLE E-6

        SENSING TYPES                  INTUITIVE TYPES
WITH            WITH            WITH            WITH                           N     %        I
THINKING        FEELING         FEELING         THINKING
---------------------------------------------------------------        E      33 47.14    0.81
| I S T J     | I S F J     | I N F J     | I N T J     |  J           I      37 52.86    1.27
|             |             |             |             |  U
|             |             |             |             |  D           S      49 70.00    1.16
| N=   6      | N=  13      | N=   2      | N=   1      |  G           N      21 30.00    0.76
|             |             |             |             |  I
| %= 8.57     | %=18.57     | %= 2.86     | %= 1.43     |  N  I        T      16 22.86    0.87
|             |             |             |             |  G  N        F      54 77.14    1.04
| I= 1.32     | I= 1.48     | I= 0.64     | I= 0.86     |     T
|             |             |             |             |     R        J      43 61.43    1.00
---------------------------------------------------------------     O        P      27 38.57    0.99
| I S T P     | I S F P     | I N F P     | I N T P     |     V
|             |             |             |             |     E        IJ     22 31.43    1.25
|             |             |             |             |     R        IP     15 21.43    1.30
| N=   2      | N=   4      | N=   9      | N=   0      |     T
|             |             |             |             |     S        EP     12 17.14    0.77
| %= 2.86     | %= 5.71     | %=12.86     | %= 0.0      |  P           EJ     21 30.00    0.83
|             |             |             |             |  E
| I= 1.79     | I= 1.03     | I= 1.69     | I= 0.0      |  R           ST     14 20.00    1.13
|             |             |             |             |  C           SF     35 50.00    1.17
---------------------------------------------------------------  E
| E S T P     | E S F P     | E N F P     | E N T P     |  P           NF     19 27.14    0.87
|             |             |             |             |  T           NT      2  2.86    0.34
|             |             |             |             |  I
| N=   0      | N=   6      | N=   5      | N=   1      |  V           SJ     37 52.86    1.18
|             |             |             |             |  E           SP     12 17.14    1.09
| %= 0.0      | %= 8.57     | %= 7.14     | %= 1.43     |  S  E
|             |             |             |             |     X        NP     15 21.43    0.93
| I= 0.0      | I= 1.29     | I= 0.63     | I= 0.58     |     T        NJ      6  8.57    0.52
|             |             |             |             |     R
---------------------------------------------------------------     A        TJ     13 18.57    1.00
| E S T J     | E S F J     | E N F J     | E N T J     |  J  V        TP      3  4.29    0.56
|             |             |             |             |  U  E
|             |             |             |             |  D  R        FP     24 34.29    1.10
| N=   6      | N=  12      | N=   3      | N=   0      |  G  T        FJ     30 42.86    1.00
|             |             |             |             |  I  S
| %= 8.57     | %=17.14     | %= 4.29     | %= 0.0      |  N           IN     12 17.14    1.11
|             |             |             |             |  G           EN      9 12.86    0.53"
| I= 1.11     | I= 0.95     | I= 0.56     | I= 0.0      |
|             |             |             |             |              IS     25 35.71    1.36
---------------------------------------------------------------              ES     24 34.29    1.00

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. >  3.8;
         #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. >  6.6;
         *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COMPOSITE OF STUDENTS IN NURSING AND ALLIED FIELDS
   BASE TOTAL N =  7625. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER                E    3.66    IJ   1.46    SJ   1.86    IN   0.15
                                        I    3.66    IP   1.28    SP   0.12    FN   4.88
 0.50      2.35      0.57      0.94                  FP   1.11    NP   0.12    IS   3.33
                                        S    2.70    EJ   1.10    NJ   3.16    ES   0.00
 0.57      0.97      2.75      0.40     N    2.70
                                                     ST   0.25    TJ   0.00
 0.4[illegible]      0.43      0.34      0.71     T    0.40    SF   1.53    TP   0.35
                                        F    0.40    NF   0.52    FP   0.32
 0.07      0.04      0.35      0.26                  NT   0.12    FJ   0.00
                                        J    0.00
                                        P    0.00
```

```
SOURCE OF DATA:                       GROUP                    MBTI TYPE TABLE
                                    TABULATED:             CENTER FOR APPLICATIONS
MARY H. MCCAULLEY, PH.D.                                    OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS             NURSING STUDENTS
HEW CONTRACT 231-76-0051            2-YEAR PROGRAMS        LEGEND: % = PERCENT OF
 AMSA FOUNDATION - CAPT                                    TOTAL CHOOSING THIS GROUP
                                                           WHO FALL INTO THIS TYPE.
TABLE CREATED 7/31/77                                      I = SELFSELECTION INDEX;
                                                           RATIO OF PERCENT OF TYPE
                                     N= 1345               IN GROUP TO % IN SAMPLE.
TABLE E-7

       SENSING TYPES              INTUITIVE TYPES
WITH         WITH          WITH         WITH                          N      %     I
THINKING     FEELING       FEELING      THINKING
-----------------------------------------------------         E     767  57.03  0.98
| I S T J    | I S F J    | I N F J    | I N T J    | J       I     578  42.97  1.03
|            |            |            |            | U
|            |            |            |            | D       S     816  60.67  1.00
| N=  83     | N= 182     | N=  46     | N=  17     | G       N     529  39.33  0.99
|            |            |            |            | I
| %= 6.17    | %=13.53    | %= 3.42    | %= 1.26    | N I     T     331  24.61  0.94
|            |            |            |            | G N     F    1014  75.39  1.02
| I= 0.95    | I= 1.08    | I= 0.76"   | I= 0.76    |   T
|            |            |            |            |   R     J     769  57.17  0.93*
-----------------------------------------------------   O     P     576  42.83  1.10*
| I S T P    | I S F P    | I N F P    | I N T P    |   V
|            |            |            |            |   E     IJ    328  24.39  0.97
|            |            |            |            |   R     IP    250  18.59  1.13"
| N=  22     | N=  88     | N= 111     | N=  29     |   T
|            |            |            |            |   S     EP    326  24.24  1.08
| %= 1.64    | %= 6.54    | %= 8.25    | %= 2.16    | P       EJ    441  32.79  0.91#
|            |            |            |            | E
| I= 1.02    | I= 1.18    | I= 1.08    | I= 1.27    | R       ST    224  16.65  0.94
|            |            |            |            | C       SF    592  44.01  1.03
-----------------------------------------------------  E
| E S T P    | E S F P    | E N F P    | E N T P    | P       NF    422  31.38  1.01
|            |            |            |            | T       NT    107   7.96  0.94
|            |            |            |            | I
| N=  27     | N= 103     | N= 162     | N=  34     | V       SJ    576  42.83  0.96
|            |            |            |            | E       SP    240  17.84  1.14"
| %= 2.01    | %= 7.66    | %=12.04    | %= 2.53    | S E
|            |            |            |            |   X     NP    336  24.98  1.08
| I= 1.06    | I= 1.15    | I= 1.06    | I= 1.03    |   T     NJ    193  14.35  0.87"
|            |            |            |            |   R
-----------------------------------------------------   A     TJ    219  16.28  0.88"
| E S T J    | E S F J    | E N F J    | E N T J    | J V     TP    112   8.33  1.09
|            |            |            |            | U E
|            |            |            |            | D R     FP    464  34.50  1.11#
| N=  92     | N= 219     | N= 103     | N=  27     | G T     FJ    550  40.89  0.96
|            |            |            |            | I S
| %= 6.84    | %=16.28    | %= 7.66    | %= 2.01    | N       IN    203  15.09  0.98
|            |            |            |            | G       EN    326  24.24  1.01
| I= 0.89    | I= 0.90    | I= 1.00    | I= 0.77    |
|            |            |            |            |         IS    375  27.88  1.07
-----------------------------------------------------         ES    441  32.79  0.96

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COMPOSITE OF STUDENTS IN NURSING AND ALLIED FIELDS
   BASE TOTAL N =  7625. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER               E    1.20    IJ   0.56    SJ   2.54    IN   0.17
                                       I    1.20    IP   5.45    SP   5.90    EN   0.02
 0.30     1.47     4.32     1.61                    EP   3.32    NP   3.09    IS   2.45
                                       S    0.03    EJ   7.31    NJ   5.04    ES   1.59
 0.01     3.18     0.93     2.12       N    0.03
                                                    ST   1.27    TJ   5.41
 0.12     2.75     0.74     0.03       T    2.04    SF   1.11    TP   1.07
                                       F    2.04    NF   0.05    FP   8.48
 1.79     3.34     0.00     2.42                    NT   0.51    FJ   2.12
                                       J   11.11
                                       P   11.11
```

```
SOURCE OF DATA:                     GROUP                  MBTI TYPE TABLE
                                  TABULATED:          CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                               OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS          NURSING STUDENTS
 HEW CONTRACT 231-76-0051      IN DIPLOMA PROGRAMS     LEGEND: % = PERCENT OF
 AMSA FOUNDATION - CAPT          (MYERS' DATA)         TOTAL CHOOSING THIS GROUP
                                                       WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                 I = SELFSELECTION INDEX:
                                                       RATIO OF PERCENT OF TYPE
                                   N= 3171             IN GROUP TO % IN SAMPLE.
 TABLE E-8

      SENSING TYPES               INTUITIVE TYPES
 WITH           WITH           WITH           WITH                          N      %       I
 THINKING       FEELING        FEELING        THINKING
 -------------------------------------------------------------         E     2030  64.02   1.10*
 | I S T J      | I S F J      | I N F J      | I N T J      |  J     I     1141  35.98   0.86*
 |              |              |              |              |  U
 |              |              |              |              |  D     S     2082  65.66   1.09*
 | N= 190       | N= 392       | N= 137       | N=  40       |  G     N     1089  34.34   0.87*
 |              |              |              |              |  I
 | %= 5.99      | %=12.36      | %= 4.32      | %= 1.26      |  N I   T      799  25.20   0.96
 |              |              |              |              |  G N   F     2372  74.80   1.01
 | I= 0.92      | I= 0.99      | I= 0.96      | I= 0.76"     |    T
 |              |              |              |              |    R   J     2106  66.41   1.09*
 -------------------------------------------------------------     O   P     1065  33.59   0.87*
 | I S T P      | I S F P      | I N F P      | I N T P      |    V
 |              |              |              |              |    E   IJ     759  23.94   0.95"
 |              |              |              |              |    R   IP     382  12.05   0.73*
 | N=  32       | N= 142       | N= 169       | N=  39       |    T
 |              |              |              |              |    S   EP     683  21.54   0.96
 | %= 1.01      | %= 4.48      | %= 5.33      | %= 1.23      |  P     EJ    1347  42.48   1.18*
 |              |              |              |              |  E
 | I= 0.63*     | I= 0.81*     | I= 0.70*     | I= 0.73#     |  R     ST     561  17.69   1.00
 |              |              |              |              |  C     SF    1521  47.97   1.12*
 -------------------------------------------------------------   E
 | E S T P      | E S F P      | E N F P      | E N T P      |  P     NF     851  26.84   0.86*
 |              |              |              |              |  T     NT     238   7.51   0.89"
 |              |              |              |              |  I
 | N=  59       | N= 253       | N= 299       | N=  72       |  V     SJ    1596  50.33   1.12*
 |              |              |              |              |  E     SP     486  15.33   0.98
 | %= 1.86      | %= 7.98      | %= 9.43      | %= 2.27      |  S E
 |              |              |              |              |    X   NP     579  18.26   0.79*
 | I= 0.99      | I= 1.20*     | I= 0.83*     | I= 0.92      |    T   NJ     510  16.08   0.98
 |              |              |              |              |    R
 -------------------------------------------------------------     A   TJ     597  18.83   1.02
 | E S T J      | E S F J      | E N F J      | E N T J      |  J V   TP     202   6.37   0.83*
 |              |              |              |              |  U E
 |              |              |              |              |  D R   FP     863  27.22   0.87*
 | N= 280       | N= 734       | N= 246       | N=  87       |  G T   FJ    1509  47.59   1.12*
 |              |              |              |              |  I S
 | %= 8.83      | %=23.15      | %= 7.76      | %= 2.74      |  N     IN     385  12.14   0.79*
 |              |              |              |              |  G     EN     704  22.20   0.92#
 | I= 1.14#     | I= 1.28*     | I= 1.02      | I= 1.05      |
 |              |              |              |              |        IS     756  23.84   0.91*
 -------------------------------------------------------------         ES    1326  41.82   1.22*

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COMPOSITE OF STUDENTS IN NURSING AND ALLIED FIELDS
   BASE TOTAL N =  7625. SAMPLE AND BASE ARE DEPENDENT.

  * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

       TYPE TABLE ORDER             E   71.49    IJ    4.56    SJ   67.48    IN  45.80
                                    I   71.49    IP   76.46    SP    0.45    EN  10.61
  2.35     0.15     0.34     5.41                EP    2.11    NP   72.92    IS  15.33
                                    S   61.67    EJ   98.90    NJ    0.41    ES 137.29
 12.04    11.59    40.45     6.96   N   61.67
                                                 ST    0.00    TJ    0.34
  0.02    15.79    20.30     0.86   T    2.63    SF   60.87    TP   12.51
                                    F    2.63    NF   46.21    FP   39.39
  9.31    96.62     0.12     0.31                NT    6.21    FJ   53.54
                                    J   62.31
                                    P   62.31
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

NURSING STUDENTS
BACCALAUREATE
PROGRAMS

N= 2074

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE E-9

	SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING
INTROVERTS JUDGING	I S T J N= 139 %= 6.70 I= 1.03	I S F J N= 239 %=11.52 I= 0.92	I N F J N= 117 %= 5.64 I= 1.26#	I N T J N= 59 %= 2.84 I= 1.71*
INTROVERTS PERCEPTIVES	I S T P N= 40 %= 1.93 I= 1.21	I S F P N= 126 %= 6.08 I= 1.10	I N F P N= 229 %=11.04 I= 1.45*	I N T P N= 42 %= 2.03 I= 1.20
EXTRAVERTS PERCEPTIVES	E S T P N= 37 %= 1.78 I= 0.94	E S F P N= 82 %= 3.95 I= 0.60*	E N F P N= 263 %=12.68 I= 1.12"	E N T P N= 55 %= 2.65 I= 1.08
EXTRAVERTS JUDGING	E S T J N= 130 %= 6.27 I= 0.81#	E S F J N= 277 %=13.36 I= 0.74*	E N F J N= 179 %= 8.63 I= 1.13"	E N T J N= 60 %= 2.89 I= 1.10

	N	%	I
E	1083	52.22	0.89*
I	991	47.78	1.15*
S	1070	51.59	0.85*
N	1004	48.41	1.22*
T	562	27.10	1.04
F	1512	72.90	0.99
J	1200	57.86	0.95*
P	874	42.14	1.09*
IJ	554	26.71	1.06
IP	437	21.07	1.28*
EP	437	21.07	0.94
EJ	646	31.15	0.87*
ST	346	16.68	0.94
SF	724	34.91	0.82*
NF	788	37.99	1.22*
NT	216	10.41	1.23*
SJ	785	37.85	0.85*
SP	285	13.74	0.88#
NP	589	28.40	1.23*
NJ	415	20.01	1.22*
TJ	388	18.71	1.01
TP	174	8.39	1.10
FP	700	33.75	1.08#
FJ	812	39.15	0.92*
IN	447	21.55	1.39*
EN	557	26.86	1.11*
IS	544	26.23	1.00
ES	526	25.36	0.74*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS IN NURSING AND ALLIED FIELDS
BASE TOTAL N = 7625. SAMPLE AND BASE ARE DEPENDENT.

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* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

      TYPE TABLE ORDER              E   44.24   IJ    3.48   SJ  55.45   IN  80.84
                                    I   44.24   IP   44.34   SP   7.93   EN  11.91
0.18    2.67     8.89    24.19                  EP    2.73   NP  44.17   IS   0.00
                                    S   93.43   EJ   29.12   NJ  26.07   ES 100.34
1.95    1.59    47.39     1.90      N   93.43
                                                ST    2.09   TJ   0.07
0.17   33.08     4.85     0.41      T    1.29   SF   71.18   TP   2.23
                                    F    1.29   NF   63.03   FP   8.91
8.48   41.95     4.02     0.81                  NT   14.28   FJ  14.46
                                    J   13.34
                                    P   13.34
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE E-10

GROUP
TABULATED:

NURSING STUDENTS
GRADUATE DEGREE
PROGRAMS

N= 566

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 38 %= 6.71 I= 1.03	I S F J N= 60 %=10.60 I= 0.85	I N F J N= 38 %= 6.71 I= 1.50#	I N T J N= 36 %= 6.36 I= 3.82*	JUDGING	INTROVERTS
I S T P N= 15 %= 2.65 I= 1.66"	I S F P N= 30 %= 5.30 I= 0.96	I N F P N= 45 %= 7.95 I= 1.04	I N T P N= 30 %= 5.30 I= 3.13*	PERCEPTIVES	
E S T P N= 3 %= 0.53 I= 0.28"_	E S F P N= 14 %= 2.47 I= 0.37*	E N F P N= 78 %=13.78 I= 1.21	E N T P N= 25 %= 4.42 I= 1.79#		EXTRAVERTS
E S T J N= 34 %= 6.01 I= 0.78	E S F J N= 46 %= 8.13 I= 0.45*	E N F J N= 49 %= 8.66 I= 1.13	E N T J N= 25 %= 4.42 I= 1.68#	JUDGING	

	N	%	I
E	274	48.41	0.83*
I	292	51.59	1.24*
S	240	42.40	0.70*
N	326	57.60	1.46*
T	206	36.40	1.39*
F	360	63.60	0.86*
J	326	57.60	0.94
P	240	42.40	1.09
IJ	172	30.39	1.21#
IP	120	21.20	1.29#
EP	120	21.20	0.95
EJ	154	27.21	0.76*
ST	90	15.90	0.90
SF	150	26.50	0.62*
NF	210	37.10	1.19#
NT	116	20.49	2.43*
SJ	178	31.45	0.70*
SP	62	10.95	0.70#
NP	178	31.45	1.36*
NJ	148	26.15	1.59*
TJ	133	23.50	1.27#
TP	73	12.90	1.69*
FP	167	29.51	0.95
FJ	193	34.10	0.80*
IN	149	26.33	1.70*
EN	177	31.27	1.30*
IS	143	25.26	0.97
ES	97	17.14	0.50*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS IN NURSING AND ALLIED FIELDS
BASE TOTAL N = 7625. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.04	2.09	7.09	82.28
4.28	0.06	0.10	47.87
0.01	17.10	3.52	9.68
2.53	40.50	0.91	7.70

E	24.91	IJ	8.76	SJ	43.99	IN	55.19
I	24.91	IP	10.06	SP	10.25	EN	17.24
S	83.25	EP	0.47	NP	23.68	IS	0.26
N	83.25	EJ	20.51	NJ	42.31	ES	79.65
T	33.13	ST	1.38	TJ	10.05		
F	33.13	SF	65.78	TP	23.88		
J	3.33	NF	10.25	FP	0.78		
P	3.33	NT	114.78	FJ	18.38		

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE E-11

GROUP
TABULATED:

COMPOSITE OF
PRACTITIONERS IN
NURSING AND
ALLIED FIELDS

N= 2635

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE. I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 238 %= 9.03 I= 1.26*	I S F J N= 402 %=15.26 I= 1.15*	I N F J N= 122 %= 4.63 I= 1.02	I N T J N= 81 %= 3.07 I= 1.52*	JUDGING	INTROVERTS
I S T P N= 73 %= 2.77 I= 1.46*	I S F P N= 171 %= 6.49 I= 1.12	I N F P N= 207 %= 7.86 I= 1.02	I N T P N= 69 %= 2.62 I= 1.36#	PERCEPTIVES	
E S T P N= 42 %= 1.59 I= 0.88	E S F P N= 110 %= 4.17 I= 0.70*	E N F P N= 298 %=11.31 I= 1.00	E N T P N= 75 %= 2.85 I= 1.11		EXTRAVERTS
E S T J N= 182 %= 6.91 I= 0.92	E S F J N= 313 %=11.88 I= 0.72*	E N F J N= 161 %= 6.11 I= 0.84#	E N T J N= 91 %= 3.45 I= 1.22"	JUDGING	

	N	%	I
E	1272	48.27	0.87*
I	1363	51.73	1.17*
S	1531	58.10	0.97"
N	1104	41.90	1.04"
T	851	32.30	1.16*
F	1784	67.70	0.94*
J	1590	60.34	0.99
P	1045	39.66	1.02
IJ	843	31.99	1.19*
IP	520	19.73	1.14*
EP	525	19.92	0.92#
EJ	747	28.35	0.83*
ST	535	20.30	1.10#
SF	996	37.80	0.91*
NF	788	29.91	0.97
NT	316	11.99	1.28*
SJ	1135	43.07	0.97
SP	396	15.03	0.97
NP	649	24.63	1.05
NJ	455	17.27	1.04
TJ	592	22.47	1.15*
TP	259	9.83	1.20*
FP	786	29.83	0.97
FJ	998	37.87	0.91*
IN	479	18.18	1.12#
EN	625	23.72	0.99
IS	884	33.55	1.20*
ES	647	24.55	0.77*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS AND PRACTITIONERS IN NURSING AND ALLIED FIELDS
BASE TOTAL N = 10260. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

18.83	12.60	0.10	19.56
14.39	3.28	0.15	8.89
0.95	21.02	0.01	1.14
1.88	53.75	6.76	4.90

E	80.78	IJ	45.99	SJ	2.33	IN	10.66
I	80.78	IP	14.81	SP	0.59	EN	0.15
		EP	6.83	NP	2.39	IS	52.70
S	4.48	EJ	51.06	NJ	1.05	ES	85.25
N	4.48						
		ST	8.73	TJ	19.43		
T	36.74	SF	19.60	TP	12.39		
F	36.74	NF	1.33	FP	1.63		
		NT	29.04	FJ	18.60		
J	0.60						
P	0.60						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

NURSING
PRACTITIONERS
FOR WHOM
SEX IS KNOWN

N= 840

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX;
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

TABLE E-12

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 75 %= 8.93 I= 0.99	I S F J N= 117 %=13.93 I= 0.91	I N F J N= 54 %= 6.43 I= 1.39#	I N T J N= 30 %= 3.57 I= 1.16	JUDGING	INTROVERTS
I S T P N= 22 %= 2.62 I= 0.95	I S F P N= 54 %= 6.43 I= 0.99	I N F P N= 83 %= 9.88 I= 1.26#	I N T P N= 14 %= 1.67 I= 0.64"	PERCEPTIVES	
E S T P N= 19 %= 2.26 I= 1.42	E S F P N= 27 %= 3.21 I= 0.77	E N F P N= 109 %=12.98 I= 1.15	E N T P N= 24 %= 2.86 I= 1.00		EXTRAVERTS
E S T J N= 50 %= 5.95 I= 0.86	E S F J N= 86 %=10.24 I= 0.86	E N F J N= 57 %= 6.79 I= 1.11	E N T J N= 19 %= 2.26 I= 0.65"	JUDGING	

	N	%	I
E	391	46.55	0.96
I	449	53.45	1.03
S	450	53.57	0.92#
N	390	46.43	1.11#
T	253	30.12	0.93
F	587	69.88	1.03
J	488	58.10	0.96
P	352	41.90	1.06
IJ	276	32.86	1.03
IP	173	20.60	1.04
EP	179	21.31	1.07
EJ	212	25.24	0.89"
ST	166	19.76	0.97
SF	284	33.81	0.89#
NF	303	36.07	1.21*
NT	87	10.36	0.85
SJ	328	39.05	0.91#
SP	122	14.52	0.97
NP	230	27.38	1.11"
NJ	160	19.05	1.10
TJ	174	20.71	0.92
TP	79	9.40	0.96
FP	273	32.50	1.09"
FJ	314	37.38	0.99
IN	181	21.55	1.19#
EN	209	24.88	1.05
IS	268	31.90	0.95
ES	182	21.67	0.88"

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN NURSING AND ALLIED FIELDS
BASE TOTAL N = 2635. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.02	1.68	9.03	0.02
0.10	0.01	5.99	4.38
3.51	2.84	3.42	0.00
1.75	3.17	0.58	5.25

E	1.47	IJ	0.42	SJ	8.15	IN	9.41
I	1.47	IP	0.58	SP	0.25	EN	0.92
		EP	1.48	NP	5.03	IS	1.49
S	10.40	EJ	5.88	NJ	2.74	ES	5.55
N	10.40						
		ST	0.22	TJ	2.17		
T	2.67	SF	8.35	TP	0.25		
F	2.67	NF	22.37	FP	4.20		
		NT	3.12	FJ	0.13		
J	2.60						
P	2.60						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE E-13

GROUP
TABULATED:

REGISTERED NURSES

MALES

N= 33

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

	SENSING TYPES		INTUITIVE TYPES	
	WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING
JUDGING INTROVERTS	I S T J N= 4 %=12.12 I= 1.36	I S F J N= 2 %= 6.06 I= 0.44	I N F J N= 1 %= 3.03 I= 0.47	I N T J N= 0 %= 0.0 I= 0.0
PERCEPTIVES	I S T P N= 2 %= 6.06 I= 2.31	I S F P N= 0 %= 0.0 I= 0.0	I N F P N= 5 %=15.15 I= 1.53	I N T P N= 0 %= 0.0 I= 0.0
PERCEPTIVES EXTRAVERTS	E S T P N= 0 %= 0.0 I= 0.0	E S F P N= 1 %= 3.03 I= 0.94	E N F P N= 2 %= 6.06 I= 0.47	E N T P N= 4 %=12.12 I= 4.24"
JUDGING	E S T J N= 1 %= 3.03 I= 0.51	E S F J N= 3 %= 9.09 I= 0.89	E N F J N= 4 %=12.12 I= 1.79	E N T J N= 4 %=12.12 I= 5.36#

	N	%	I
E	19	57.58	1.24
I	14	42.42	0.79
S	13	39.39	0.74
N	20	60.61	1.31
T	15	45.45	1.51"
F	18	54.55	0.78"
J	19	57.58	0.99
P	14	42.42	1.01
IJ	7	21.21	0.65
IP	7	21.21	1.03
EP	7	21.21	1.00
EJ	12	36.36	1.44
ST	7	21.21	1.07
SF	6	18.18	0.54
NF	12	36.36	1.01
NT	8	24.24	2.34#
SJ	10	30.30	0.78
SP	3	9.09	0.63
NP	11	33.33	1.22
NJ	9	27.27	1.43
TJ	9	27.27	1.32
TP	6	18.18	1.93
FP	8	24.24	0.75
FJ	10	30.30	0.81
IN	6	18.18	0.84
EN	14	42.42	1.71"
IS	8	24.24	0.76
ES	5	15.15	0.70

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
REGISTERED NURSES FOR WHOM SEX IS KNOWN
BASE TOTAL N = 840. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.52	0.21	0.51	0.40
0.21	0.16	0.36	0.66
0.62	0.99	0.39	0.01
0.71	0.99	0.27	0.00

E	1.68	IJ	2.11	SJ	1.10	IN	0.23
I	1.68	IP	0.01	SP	0.46	EN	5.66
		EP	0.00	NP	0.61	IS	0.93
S	2.78	EJ	2.25	NJ	1.51	ES	0.40
N	2.78						
		ST	0.05	TJ	0.90		
T	3.84	SF	3.75	TP	3.11		
F	3.84	NF	0.00	FP	1.07		
		NT	7.13	FJ	0.74		
J	0.00						
P	0.00						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE E-14

GROUP
TABULATED:

REGISTERED NURSES

FEMALES

N= 807

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 71 %= 8.80 I= 0.99	I S F J N= 115 %=14.25 I= 1.02	I N F J N= 53 %= 6.57 I= 1.02	I N T J N= 30 %= 3.72 I= 1.04	JUDGING	INTROVERTS
I S T P N= 20 %= 2.48 I= 0.95	I S F P N= 54 %= 6.69 I= 1.04	I N F P N= 78 %= 9.67 I= 0.98	I N T P N= 14 %= 1.73 I= 1.04	PERCEPTIVES	
E S T P N= 19 %= 2.35 I= 1.04	E S F P N= 26 %= 3.22 I= 1.00	E N F P N= 107 %=13.26 I= 1.02	E N T P N= 20 %= 2.48 I= 0.87"		EXTRAVERTS
E S T J N= 49 %= 6.07 I= 1.02	E S F J N= 83 %=10.29 I= 1.00	E N F J N= 53 %= 6.57 I= 0.97	E N T J N= 15 %= 1.86 I= 0.82#	JUDGING	

	N	%	I
E	372	46.10	0.99
I	435	53.90	1.01
S	437	54.15	1.01
N	370	45.85	0.99
T	238	29.49	0.98"
F	569	70.51	1.01"
J	469	58.12	1.00
P	338	41.88	1.00
IJ	269	33.33	1.01
IP	166	20.57	1.00
EP	172	21.31	1.00
EJ	200	24.78	0.98
ST	159	19.70	1.00
SF	278	34.45	1.02
NF	291	36.06	1.00
NT	79	9.79	0.95#
SJ	318	39.41	1.01
SP	119	14.75	1.02
NP	219	27.14	0.99
NJ	151	18.71	0.98
TJ	165	20.45	0.99
TP	73	9.05	0.96
FP	265	32.84	1.01
FJ	304	37.67	1.01
IN	175	21.69	1.01
EN	195	24.16	0.97"
IS	260	32.22	1.01
ES	177	21.93	1.01

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
REGISTERED NURSES FOR WHOM SEX IS KNOWN
BASE TOTAL N = 840. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.52	0.21	0.51	0.40
0.21	0.16	0.36	0.66
0.62	0.99	0.30	0.01
0.71	0.99	0.27	0.00

E	1.68	IJ	2.11	SJ	1.10	IN	0.23
I	1.68	IP	0.01	SP	0.46	EN	5.66
		EP	0.00	NP	0.61	IS	0.93
S	2.78	FJ	2.25	NJ	1.51	ES	0.40
N	2.78						
		ST	0.05	TJ	0.90		
T	3.84	SF	3.75	TP	3.11		
F	3.84	NF	0.00	FP	1.07		
		NT	7.13	FJ	0.74		
J	0.00						
P	0.00						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE E-15

GROUP
TABULATED:

NURSING ASSISTANTS

N= 171

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX:
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

```
       SENSING TYPES                 INTUITIVE TYPES
WITH           WITH           WITH           WITH                          N      %       I
THINKING       FEELING        FEELING        THINKING
-------------------------------------------------------------      E      87  50.88   1.05
| I S T J      | I S F J      | I N F J      | I N T J      | J    I      84  49.12   0.95
|              |              |              |              | U
|              |              |              |              | D    S     109  63.74   1.10
| N=   16      | N=   27      | N=    5      | N=    0      | G    N      62  36.26   0.87
|              |              |              |              | I
| %= 9.36      | %=15.79      | %= 2.92      | %= 0.0       | N I  T      46  26.90   0.83
|              |              |              |              | G N  F     125  73.10   1.08
| I= 1.04      | I= 1.03      | I= 0.63      | I= 0.0 "     |   T
|              |              |              |              |   R  J      95  55.56   0.92
-------------------------------------------------------------   O  P      76  44.44   1.12
| I S T P      | I S F P      | I N F P      | I N T P      |   V
|              |              |              |              |   E  IJ     48  28.07   0.88
|              |              |              |              |   R  IP     36  21.05   1.07
| N=    6      | N=   12      | N=   12      | N=    6      |   T
|              |              |              |              |   S  EP     40  23.39   1.17
| %= 3.51      | %= 7.02      | %= 7.02      | %= 3.51      | P    EJ     47  27.49   0.97
|              |              |              |              | E
| I= 1.27      | I= 1.08      | I= 0.89      | I= 1.34      | R    ST     28  16.37   0.81
|              |              |              |              | C    SF     81  47.37   1.25#
-------------------------------------------------------------  E
| E S T P      | E S F P      | E N F P      | E N T P      | P    NF     44  25.73   0.86
|              |              |              |              | T    NT     18  10.53   0.88
|              |              |              |              | I
| N=    2      | N=   11      | N=   23      | N=    4      | V    SJ     78  45.61   1.06
|              |              |              |              | E    SP     31  18.13   1.21
| %= 1.17      | %= 6.43      | %=13.45      | %= 2.34      | S E
|              |              |              |              |   X  NP     45  26.32   1.07
| I= 0.73      | I= 1.54      | I= 1.19      | I= 0.82      |   T  NJ     17   9.94   0.58#
|              |              |              |              |   R
-------------------------------------------------------------   A  TJ     28  16.37   0.73"
| E S T J      | E S F J      | E N F J      | E N T J      | J V  TP     18  10.53   1.07
|              |              |              |              | U E
|              |              |              |              | D R  FP     58  33.92   1.14
| N=    4      | N=   31      | N=    4      | N=    8      | G T  FJ     67  39.18   1.03
|              |              |              |              | I S
| %= 2.34      | %=18.13      | %= 2.34      | %= 4.68      | N    IN     23  13.45   0.74
|              |              |              |              | G    EN     39  22.81   0.96
| I= 0.34"     | I= 1.53#     | I= 0.38"     | I= 1.35      |
|              |              |              |              |      IS     61  35.67   1.06
-------------------------------------------------------------      ES     48  28.07   1.14
```

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.9;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN NURSING AND ALLIED FIELDS
BASE TOTAL N = 2635. SAMPLE AND BASE ARE DEPENDENT.

```
* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

     TYPE TABLE ORDER              E   0.50   IJ  1.29   SJ  0.48   IN  2.75
                                   I   0.50   IP  0.20   SP  1.38   EN  0.08
0.02    0.04    0.35    0.02                  EP  1.38   NP  0.28   IS  0.37
                                   S   2.39   EJ  0.07   NJ  6.87   ES  1.22
0.37    0.08    0.18    0.57       N   2.39
                                              ST  1.74   TJ  3.90
0.76    2.33    0.84    0.81       T   2.43   SF  7.12   TP  0.10
                                   F   2.43   NF  1.52   FP  1.46
0.02    6.82    0.04    0.82                  NT  0.37   FJ  0.13
                                   J   1.75
                                   P   1.75
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE E-16

GROUP
TABULATED:

LICENSED PRACTICAL
NURSES

N= 113

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX;
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	 WITH FEELING	INTUITIVE TYPES WITH FEELING	 WITH THINKING	
I S T J N= 7 %= 6.19 I= 0.69	I S F J N= 23 %=20.35 I= 1.33	I N F J N= 2 %= 1.77 I= 0.38	I N T J N= 0 %= 0.0 I= 0.0	JUDGING INTROVERTS
I S T P N= 2 %= 1.77 I= 0.64	I S F P N= 9 %= 7.96 I= 1.23	I N F P N= 5 %= 4.42 I= 0.56	I N T P N= 0 %= 0.0 I= 0.0	PERCEPTIVES
E S T P N= 2 %= 1.77 I= 1.11	E S F P N= 7 %= 6.19 I= 1.48	E N F P N= 12 %=10.62 I= 0.94	E N T P N= 4 %= 3.54 I= 1.24	EXTRAVERTS
E S T J N= 15 %=13.27 I= 1.92#	E S F J N= 20 %=17.70 I= 1.49"	E N F J N= 5 %= 4.42 I= 0.72	E N T J N= 0 %= 0.0 I= 0.0	JUDGING

	N	%	I
E	65	57.52	1.19"
I	48	42.48	0.82"
S	85	75.22	1.29*
N	28	24.78	0.59*
T	30	26.55	0.82
F	83	73.45	1.08
J	72	63.72	1.06
P	41	36.28	0.91
IJ	32	28.32	0.89
IP	16	14.16	0.72
EP	25	22.12	1.11
EJ	40	35.40	1.25
ST	26	23.01	1.13
SF	59	52.21	1.38#
NF	24	21.24	0.71"
NT	4	3.54	0.30#
SJ	65	57.52	1.34#
SP	20	17.70	1.18
NP	21	18.58	0.75
NJ	7	6.19	0.36#
TJ	22	19.47	0.87
TP	8	7.08	0.72
FP	33	29.20	0.98
FJ	50	44.25	1.17
IN	7	6.19	0.34*
EN	21	18.58	0.78
IS	41	36.28	1.08
ES	44	38.94	1.59*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN NURSING AND ALLIED FIELDS
BASE TOTAL N = 2635. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

1.16	2.37	0.17	0.08
0.58	0.42	0.21	0.12
0.99	1.20	0.06	0.76
7.44	3.82	0.54	0.06

E	4.04	IJ	0.73	SJ	10.05	IN	11.40
I	4.04	IP	2.32	SP	0.66	EN	1.72
		EP	0.36	NP	2.32	IS	0.40
S	14.21	EJ	2.89	NJ	10.13	ES	13.19
N	14.21						
		ST	0.53	TJ	0.61		
T	1.78	SF	10.43	TP	1.01		
F	1.78	NF	4.23	FP	0.02		
		NT	0.00	FJ	2.04		
J	0.56						
P	0.56						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

REGISTERED NURSES

N= 2351

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE. I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE E-17

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 215 %= 9.15 I= 1.01	I S F J N= 352 %=14.97 I= 0.98	I N F J N= 115 %= 4.89 I= 1.06	I N T J N= 81 %= 3.45 I= 1.12#	JUDGING / INTROVERTS
I S T P N= 65 %= 2.76 I= 1.00	I S F P N= 150 %= 6.38 I= 0.98	I N F P N= 190 %= 8.08 I= 1.03	I N T P N= 63 %= 2.68 I= 1.02	PERCEPTIVES / INTROVERTS
E S T P N= 38 %= 1.62 I= 1.01	E S F P N= 92 %= 3.91 I= 0.94	E N F P N= 263 %=11.19 I= 0.99	E N T P N= 67 %= 2.85 I= 1.00	PERCEPTIVES / EXTRAVERTS
E S T J N= 163 %= 6.93 I= 1.00	E S F J N= 262 %=11.14 I= 0.94*	E N F J N= 152 %= 6.47 I= 1.06"	E N T J N= 83 %= 3.53 I= 1.02	JUDGING / EXTRAVERTS

	N	%	I
E	1120	47.64	0.99
I	1231	52.36	1.01
S	1337	56.87	0.98*
N	1014	43.13	1.03*
T	775	32.96	1.02"
F	1576	67.04	0.99"
J	1423	60.53	1.00
P	928	39.47	1.00
IJ	763	32.45	1.01
IP	468	19.91	1.01
EP	460	19.57	0.98
EJ	660	28.07	0.99
ST	481	20.46	1.01
SF	856	36.41	0.96*
NF	720	30.63	1.02"
NT	294	12.51	1.04"
SJ	992	42.19	0.98#
SP	345	14.67	0.98
NP	583	24.80	1.01
NJ	431	18.33	1.06*
TJ	542	23.05	1.03"
TP	233	9.91	1.01
FP	695	29.56	0.99
FJ	881	37.47	0.99
IN	449	19.10	1.05*
EN	565	24.03	1.01
IS	782	33.26	0.99
ES	555	23.61	0.96#

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E.. CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E.. CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E.. CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN NURSING AND ALLIED FIELDS
BASE TOTAL N = 2635. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.34	1.36	3.38	0.00
0.00	0.43	1.54	0.32
0.81	3.72	0.33	0.00
0.02	11.24	4.80	0.39

E	3.51	IJ	2.14	SJ	6.88	IN	12.41
I	3.51	IP	0.41	SP	2.14	EN	1.18
		EP	1.75	NP	0.33	IS	0.80
S	13.62	EJ	0.82	NJ	17.32	ES	10.56
N	13.62						
		ST	0.33	TJ	4.32		
T	4.46	SF	17.90	TP	0.16		
F	4.46	NF	5.40	FP	0.74		
		NT	5.44	FJ	1.49		
J	0.31						
P	0.31						

```
SOURCE OF DATA:                          GROUP                 MBTI TYPE TABLE
                                       TABULATED:          CENTER FOR APPLICATIONS
MARY H. MCCAULLEY, PH.D.                                     OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS                 NURSES WITH
HEW CONTRACT 231-76-0051               BACCALAUREATE       LEGEND: % = PERCENT OF
 AMSA FOUNDATION - CAPT                   DEGREES          TOTAL CHOOSING THIS GROUP
                                                           WHO FALL INTO THIS TYPE.
TABLE CREATED 7/31/77                                      I = SELFSELECTION INDEX:
                                                           RATIO OF PERCENT OF TYPE
                                           N=  330         IN GROUP TO % IN SAMPLE.
TABLE E-18

      SENSING TYPES            INTUITIVE TYPES
 WITH        WITH         WITH        WITH                            N      %       I
 THINKING    FEELING      FEELING     THINKING
-------------------------------------------------        E   156  47.27   0.98
| I S T J   | I S F J   | I N F J   | I N T J   |  J     I   174  52.73   1.02
|           |           |           |           |  U
|           |           |           |           |  D     S   199  60.30   1.04
| N=   32   | N=   53   | N=   23   | N=    8   |  G     N   131  39.70   0.95
|           |           |           |           |  I
| %= 9.70   | %=16.06   | %= 6.97   | %= 2.42   |  N I   T   112  33.94   1.05
|           |           |           |           |  G N   F   218  66.06   0.98
| I= 1.07   | I= 1.05   | I= 1.51"  | I= 0.79   |    T
|           |           |           |           |    R   J   206  62.42   1.03
-------------------------------------------------    O   P   124  37.58   0.95
| I S T P   | I S F P   | I N F P   | I N T P   |    V
|           |           |           |           |    E   IJ  116  35.15   1.10
|           |           |           |           |    R   IP   58  17.58   0.89
| N=   15   | N=   16   | N=   14   | N=   13   |    T
|           |           |           |           |    S   EP   66  20.00   1.00
| %= 4.55   | %= 4.85   | %= 4.24   | %= 3.94   |  P     EJ   90  27.27   0.96
|           |           |           |           |  E
| I= 1.64"  | I= 0.75   | I= 0.54#  | I= 1.50   |  R     ST   80  24.24   1.19
|           |           |           |           |  C     SF  119  36.06   0.95
-------------------------------------------------  E
| E S T P   | E S F P   | E N F P   | E N T P   |  P     NF   99  30.00   1.00
|           |           |           |           |  T     NT   32   9.70   0.81
|           |           |           |           |  I
| N=    9   | N=   16   | N=   37   | N=    4   |  V     SJ  143  43.33   1.01
|           |           |           |           |  E     SP   56  16.97   1.13
| %= 2.73   | %= 4.85   | %=11.21   | %= 1.21   |  S E
|           |           |           |           |    X   NP   68  20.61   0.84
| I= 1.71   | I= 1.16   | I= 0.99   | I= 0.43   |    T   NJ   63  19.09   1.11
|           |           |           |           |    R
-------------------------------------------------    A   TJ   71  21.52   0.96
| E S T J   | E S F J   | E N F J   | E N T J   |  J V   TP   41  12.42   1.26
|           |           |           |           |  U E
|           |           |           |           |  D R   FP   83  25.15   0.84"
| N=   24   | N=   34   | N=   25   | N=    7   |  G T   FJ  135  40.91   1.08
|           |           |           |           |  I S
| %= 7.27   | %=10.30   | %= 7.58   | %= 2.12   |  N     IN   58  17.58   0.97
|           |           |           |           |  G     EN   73  22.12   0.93
| I= 1.05   | I= 0.87   | I= 1.24   | I= 0.61   |
|           |           |           |           |        IS  116  35.15   1.05
-------------------------------------------------        ES   83  25.15   1.02

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
      "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
      #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
      *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_  (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COMPOSITE OF PRACTITIONERS IN NURSING AND ALLIED FIELDS
   BASE TOTAL N =  2635. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER            E    0.15    IJ   1.73    SJ   0.01    IN   0.09
                                    I    0.15    IP   1.11    SP   1.11    EN   0.53
 0.20     0.19     4.68     0.53                 EP   0.00    NP   3.29    IS   0.43
                                    S    0.75    EJ   0.22    NJ   0.88    ES   0.07
 4.41     1.67     6.80     2.58    N    0.75
                                                 ST   3.62    TJ   0.20
 3.09     0.43     0.00     0.07    T    0.47    SF   0.48    TP   2.87
                                    F    0.47    NF   0.00    FP   3.94
 0.08     0.89     1.41     2.01                 NT   1.88    FJ   1.48
                                    J    0.68
                                    P    0.68
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

NURSES WITH
GRADUATE DEGREES

N= 276

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE E-19

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 19 %= 6.88 I= 0.76	I S F J N= 25 %= 9.06 I= 0.59#	I N F J N= 21 %= 7.61 I= 1.64"	I N T J N= 20 %= 7.25 I= 2.36*	JUDGING INTROVERTS
I S T P N= 7 %= 2.54 I= 0.92	I S F P N= 10 %= 3.62 I= 0.56"	I N F P N= 26 %= 9.42 I= 1.20	I N T P N= 19 %= 6.88 I= 2.63*	PERCEPTIVES INTROVERTS
E S T P N= 0 %= 0.0 I= 0.0 "	E S F P N= 7 %= 2.54 I= 0.61	E N F P N= 33 %=11.96 I= 1.06	E N T P N= 15 %= 5.43 I= 1.91#	PERCEPTIVES EXTRAVERTS
E S T J N= 14 %= 5.07 I= 0.73	E S F J N= 25 %= 9.06 I= 0.76	E N F J N= 18 %= 6.52 I= 1.07	E N T J N= 17 %= 6.16 I= 1.78#	JUDGING EXTRAVERTS

	N	%	I
E	129	46.74	0.97
I	147	53.26	1.03
S	107	38.77	0.67*
N	169	61.23	1.46*
T	111	40.22	1.25#
F	165	59.78	0.88#
J	159	57.61	0.95
P	117	42.39	1.07
IJ	85	30.80	0.96
IP	62	22.46	1.14
EP	55	19.93	1.00
EJ	74	26.81	0.95
ST	40	14.49	0.71"
SF	67	24.28	0.64*
NF	98	35.51	1.19"
NT	71	25.72	2.15*
SJ	83	30.07	0.70*
SP	24	8.70	0.58#
NP	93	33.70	1.37*
NJ	76	27.54	1.59*
TJ	70	25.36	1.13
TP	41	14.86	1.51#
FP	76	27.54	0.92
FJ	89	32.25	0.85"
IN	86	31.16	1.71*
EN	83	30.07	1.27#
IS	61	22.10	0.66*
ES	46	16.67	0.68#

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN NURSING AND ALLIED FIELDS
BASE TOTAL N = 2635. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

1.73	9.16	6.19	18.01
0.06	4.17	1.04	22.00
0.04	2.07	0.13	7.47
1.61	2.34	0.09	6.77

E	0.29
I	0.29
S	47.34
N	47.34
T	8.85
F	8.85
J	0.96
P	0.96

IJ	0.20	SJ	21.25
IP	1.45	SP	9.68
FP	0.00	NP	13.65
EJ	0.36	NJ	22.76
ST	6.43	TJ	1.48
SF	23.98	TP	8.79
NF	4.62	FP	0.77
NT	55.08	FJ	4.15

IN	34.93
EN	6.88
IS	18.12
FS	10.35

```
SOURCE OF DATA:                        GROUP                    MBTI TYPE TABLE
                                     TABULATED:            CENTER FOR APPLICATIONS
MARY H. MCCAULLEY, PH.D.                                     OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS               NURSING
HEW CONTRACT 231-76-0051         ADMINISTRATORS AND        LEGEND: % = PERCENT OF
 AMSA FOUNDATION - CAPT             CONSULTANTS            TOTAL CHOOSING THIS GROUP
                                                           WHO FALL INTO THIS TYPE.
TABLE CREATED 7/31/77                                      I = SELFSELECTION INDEX;
                                                           RATIO OF PERCENT OF TYPE
                                      N=  204              IN GROUP TO % IN SAMPLE.
TABLE E-20

       SENSING TYPES                INTUITIVE TYPES
WITH           WITH           WITH           WITH                          N      %      I
THINKING       FEELING        FEELING        THINKING
---------------------------------------------------------          E    101  49.51   1.03
| I S T J     | I S F J     | I N F J     | I N T J     |  J       I    103  50.49   0.98
|             |             |             |             |  U
|             |             |             |             |  D       S     96  47.06   0.81*
| N=   18     | N=   21     | N=   11     | N=   10     |  G       N    108  52.94   1.26*
|             |             |             |             |  I
| %= 8.82     | %=10.29     | %= 5.39     | %= 4.90     |  N I     T     85  41.67   1.29#
|             |             |             |             |  G N     F    119  58.33   0.86#
| I= 0.98     | I= 0.67"    | I= 1.16     | I= 1.59     |    T
|             |             |             |             |    R     J    124  60.78   1.01
---------------------------------------------------------    O     P     80  39.22   0.99
| I S T P     | I S F P     | I N F P     | I N T P     |    V
|             |             |             |             |    E     IJ    60  29.41   0.92
|             |             |             |             |    R     IP    43  21.08   1.07
| N=    5     | N=    8     | N=   16     | N=   14     |    T
|             |             |             |             |    S     EP    37  18.14   0.91
| %= 2.45     | %= 3.92     | %= 7.84     | %= 6.86     |  P       EJ    64  31.37   1.11
|             |             |             |             |  E
| I= 0.88     | I= 0.60     | I= 1.00     | I= 2.62*    |  R       ST    47  23.04   1.13
|             |             |             |             |  C       SF    49  24.02   0.64*
---------------------------------------------------------  E
| E S T P     | E S F P     | E N F P     | E N T P     |  P       NF    70  34.31   1.15
|             |             |             |             |  T       NT    38  18.63   1.55#
|             |             |             |             |  I
| N=    2     | N=    2     | N=   28     | N=    5     |  V       SJ    79  38.73   0.90
|             |             |             |             |  E       SP    17   8.33   0.55#
| %= 0.98     | %= 0.98     | %=13.73     | %= 2.45     |  S E
|             |             |             |             |    X     NP    63  30.88   1.25"
| I= 0.62     | I= 0.23     | I= 1.21     | I= 0.86     |    T     NJ    45  22.06   1.28
|             |             |             |             |    R
---------------------------------------------------------    A     TJ    59  28.92   1.29"
| E S T J     | E S F J     | E N F J     | E N T J     |  J V     TP    26  12.75   1.30
|             |             |             |             |  U E
|             |             |             |             |  D R     FP    54  26.47   0.89
| N=   22     | N=   18     | N=   15     | N=    9     |  G T     FJ    65  31.86   0.84
|             |             |             |             |  I S
| %=10.78     | %= 8.82     | %= 7.35     | %= 4.41     |  N       IN    51  25.00   1.38#
|             |             |             |             |  G       EN    57  27.94   1.18
| I= 1.56"    | I= 0.74     | I= 1.20     | I= 1.28     |
|             |             |             |             |          IS    52  25.49   0.76"
---------------------------------------------------------          ES    44  21.57   0.88

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COMPOSITE OF PRACTITIONERS IN NURSING AND ALLIED FIELDS
   BASE TOTAL N =  2635. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

      TYPE TABLE ORDER            E    0.14    IJ   0.68    SJ   1.71    IN   6.92
                                  I    0.14    IP   0.25    SP   7.76    EN   2.18
 0.01     4.21     0.29     2.48               EP   0.44    NP   4.66    IS   6.44
                                  S   11.08    EJ   1.00    NJ   3.55    ES   1.06
 0.82     2.40     0.00    15.62  N   11.08
                                               ST   1.02    TJ   5.29
 0.58     0.02     1.29     0.82  T    8.88    SF  17.86    TP   2.12
                                  F    8.88    NF   2.05    FP   1.19
 5.17     1.97     0.60     0.61               NT   9.22    FJ   3.40
                                  J    0.02
                                  P    0.02
```

```
SOURCE OF DATA:                          GROUP                  MBTI TYPE TABLE
                                       TABULATED:        CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                   OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS                 NURSING
 HEW CONTRACT 231-76-0051               EDUCATORS        LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT                                 TOTAL CHOOSING THIS GROUP
                                                         WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                   I = SELFSELECTION INDEX;
                                                         RATIO OF PERCENT OF TYPE
                                           N=  294       IN GROUP TO % IN SAMPLE.

 TABLE E-21

        SENSING TYPES             INTUITIVE TYPES
WITH         WITH         WITH         WITH                           N      %      I
THINKING     FEELING      FEELING      THINKING
-----------------------------------------------------        E     145  49.32   1.02
| I S T J    | I S F J    | I N F J    | I N T J    | J      I     149  50.68   0.98
|            |            |            |            | U
|            |            |            |            | D      S     120  40.82   0.70*
| N=  20     | N=  30     | N=  21     | N=  26     | G      N     174  59.18   1.41*
|            |            |            |            | I
| %= 6.80    | %=10.20    | %= 7.14    | %= 8.84    | N I    T     118  40.14   1.24#
|            |            |            |            | G N    F     176  59.86   0.88#
| I= 0.75    | I= 0.67"   | I= 1.54"   | I= 2.88*   |   T
|            |            |            |            |   R    J     180  61.22   1.01
-----------------------------------------------------   O    P     114  38.78   0.98
| I S T P    | I S F P    | I N F P    | I N T P    |   V
|            |            |            |            |   E    IJ     97  32.99   1.03
|            |            |            |            |   R    IP     52  17.69   0.90
| N=  10     | N=  14     | N=  14     | N=  14     |   T
|            |            |            |            |   S    EP     62  21.09   1.06
| %= 3.40    | %= 4.76    | %= 4.76    | %= 4.76    | P      EJ     83  28.23   1.00
|            |            |            |            | E
| I= 1.23    | I= 0.73    | I= 0.61"   | I= 1.82"   | R      ST     47  15.99   0.79"
|            |            |            |            | C      SF     73  24.83   0.66*
----------------------------------------------------- E
| E S T P    | E S F P    | E N F P    | E N T P    | P      NF    103  35.03   1.17"
|            |            |            |            | T      NT     71  24.15   2.01*
|            |            |            |            | I
| N=   0     | N=   8     | N=  40     | N=  14     | V      SJ     88  29.93   0.69*
|            |            |            |            | E      SP     32  10.88   0.72"
| %= 0.0     | %= 2.72    | %=13.61    | %= 4.76    | S E
|            |            |            |            |   X    NP     82  27.89   1.13
| I= 0.0 "   | I= 0.65    | I= 1.20    | I= 1.67"   |   T    NJ     92  31.29   1.81*
|            |            |            |            |   R
-----------------------------------------------------   A    TJ     80  27.21   1.21"
| E S T J    | E S F J    | E N F J    | E N T J    | J V    TP     38  12.93   1.31
|            |            |            |            | U E
|            |            |            |            | D R    FP     76  25.85   0.87
| N=  17     | N=  21     | N=  28     | N=  17     | G T    FJ    100  34.01   0.90
|            |            |            |            | I S
| %= 5.78    | %= 7.14    | %= 9.52    | %= 5.78    | N      IN     75  25.51   1.40*
|            |            |            |            | G      EN     99  33.67   1.42*
| I= 0.84    | I= 0.60#   | I= 1.56#   | I= 1.67"   |
|            |            |            |            |        IS     74  25.17   0.75#
-----------------------------------------------------        ES     46  15.65   0.64*

    NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
           "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
           #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
           *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 _  (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

    BASE POPULATION USED IN CALCULATING SELECTION RATIO:
    COMPOSITE OF PRACTITIONERS IN NURSING AND ALLIED FIELDS
    BASE TOTAL N =  2635. SAMPLE AND BASE ARE DEPENDENT.

  * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

          TYPE TABLE ORDER               E   0.15   IJ   0.15   SJ  23.31   IN  11.96
                                         I   0.15   IP   0.88   SP   4.45   EN  18.12
  2.00     6.53     4.73    36.97                   EP   0.28   NP   1.90   IS  10.42
                                         S  40.62   EJ   0.00   NJ  45.56   ES  14.17
  0.49     1.63     4.38     5.96        N  40.62
                                                    ST   3.81   TJ   4.28
  0.02     1.75     1.74     4.39        T   9.30   SF  23.67   TP   3.58
                                         F   9.30   NF   4.15   FP   2.50
  0.65     7.09     6.72     5.38                   NT  46.34   FJ   2.10
                                         J   0.11
                                         P   0.11
```

```
SOURCE OF DATA:                      GROUP                 MBTI TYPE TABLE
                                   TABULATED:           CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS             NURSES
 HEW CONTRACT 231-76-0051       MATERNITY AND           LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT           CHILDCARE            TOTAL CHOOSING THIS GROUP
                                                        WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                  I = SELFSELECTION INDEX:
                                                        RATIO OF PERCENT OF TYPE
                                     N=    68           IN GROUP TO % IN SAMPLE.
 TABLE E-22

       SENSING TYPES               INTUITIVE TYPES
 WITH          WITH            WITH          WITH                             N     %        I
 THINKING      FEELING         FEELING       THINKING
-----------------------------------------------------             E        30  44.12    0.91
| I S T J    | I S F J     | I N F J     | I N T J    |   J       I        38  55.88    1.08
|            |             |             |            |   U
|            |             |             |            |   D       S        36  52.94    0.91
| N=    6    | N=   10     | N=    6     | N=    3    |   G       N        32  47.06    1.12
|            |             |             |            |   I
| %=  8.82   | %=14.71     | %=  8.82    | %=  4.41   |   N  I    T        19  27.94    0.87
|            |             |             |            |   G  N    F        49  72.06    1.06
| I=  0.98   | I=  0.96    | I=  1.91    | I=  1.44   |      T
|            |             |             |            |      R    J        45  66.18    1.10
-----------------------------------------------------        O    P        23  33.82    0.85
| I S T P    | I S F P     | I N F P     | I N T P    |      V
|            |             |             |            |      E    IJ       25  36.76    1.15
|            |             |             |            |      R    IP       13  19.12    0.97
| N=    2    | N=    3     | N=    6     | N=    2    |      T
|            |             |             |            |      S    EP       10  14.71    0.74
| %=  2.94   | %=  4.41    | %=  8.82    | %=  2.94   |   P       EJ       20  29.41    1.04
|            |             |             |            |   E
| I=  1.06   | I=  0.68    | I=  1.12    | I=  1.12   |   R       ST        9  13.24    0.65
|            |             |             |            |   C       SF       27  39.71    1.05
-----------------------------------------------------     E
| E S T P    | E S F P     | E N F P     | E N T P    |   P       NF       22  32.35    1.08
|            |             |             |            |   T       NT       10  14.71    1.23
|            |             |             |            |   I
| N=    0    | N=    4     | N=    4     | N=    2    |   V       SJ       27  39.71    0.92
|            |             |             |            |   E       SP        9  13.24    0.88
| %=  0.0    | %=  5.88    | %=  5.88    | %=  2.94   |   S  E
|            |             |             |            |      X    NP       14  20.59    0.84
| I=  0.0    | I=  1.41    | I=  0.52    | I=  1.03   |      T    NJ       18  26.47    1.53"
|            |             |             |            |      R
-----------------------------------------------------        A    TJ       13  19.12    0.85
| E S T J    | E S F J     | E N F J     | E N T J    |   J  V    TP        6   8.82    0.90
|            |             |             |            |   U  E
|            |             |             |            |   D  R    FP       17  25.00    0.84
| N=    1    | N=   10     | N=    6     | N=    3    |   G  T    FJ       32  47.06    1.24
|            |             |             |            |   I  S
| %=  1.47   | %=14.71     | %=  8.82    | %=  4.41   |   N       IN       17  25.00    1.38
|            |             |             |            |   G       EN       15  22.06    0.93
| I=  0.21   | I=  1.24    | I=  1.44    | I=  1.28   |
|            |             |             |            |           IS       21  30.88    0.92
-----------------------------------------------------             ES       15  22.06    0.90

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         " IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. >  3.8:
         # IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. >  6.6:
         * IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
 (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COMPOSITE OF PRACTITIONERS IN NURSING AND ALLIED FIELDS
   BASE TOTAL N =  2635. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER            E    0.48    IJ   0.73    SJ   0.32    IN   2.18
                                    I    0.48    IP   0.02    SP   0.18    EN   0.11
 0.00     0.02     2.78     0.72                 EP   1.19    NP   0.61    IS   0.22
                                    S    0.76    EJ   0.04    NJ   4.14    ES   0.23
 0.99     0.62     0.09     0.99    N    0.76
                                                 ST   2.16    TJ   0.45
 0.42     0.53     0.18     0.99    T    0.61    SF   0.11    TP   0.68
                                    F    0.61    NF   0.20    FP   0.78
 0.09     0.53     0.90     0.73                 NT   0.49    FJ   2.50
                                    J    0.99
                                    P    0.99
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE E-23

GROUP
TABULATED:

NURSES
MEDICAL-SURGICAL

N= 119

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
ISTJ N= 13 %=10.92 I= 1.21	ISFJ N= 17 %=14.29 I= 0.94	INFJ N= 7 %= 5.88 I= 1.27	INTJ N= 4 %= 3.36 I= 1.09	JUDGING / INTROVERTS
ISTP N= 5 %= 4.20 I= 1.52	ISFP N= 6 %= 5.04 I= 0.78	INFP N= 5 %= 4.20 I= 0.53	INTP N= 4 %= 3.36 I= 1.28	PERCEPTIVES / INTROVERTS
ESTP N= 1 %= 0.84 I= 0.53	ESFP N= 5 %= 4.20 I= 1.01	ENFP N= 13 %=10.92 I= 0.97	ENTP N= 4 %= 3.36 I= 1.18	PERCEPTIVES / EXTRAVERTS
ESTJ N= 8 %= 6.72 I= 0.97	ESFJ N= 8 %= 6.72 I= 0.57	ENFJ N= 10 %= 8.40 I= 1.38	ENTJ N= 9 %= 7.56 I= 2.19"	JUDGING / EXTRAVERTS

	N	%	I
E	58	48.74	1.01
I	61	51.26	0.99
S	63	52.94	0.91
N	56	47.06	1.12
T	48	40.34	1.25
F	71	59.66	0.88
J	76	63.87	1.06
P	43	36.13	0.91
IJ	41	34.45	1.08
IP	20	16.81	0.85
EP	23	19.33	0.97
EJ	35	29.41	1.04
ST	27	22.69	1.12
SF	36	30.25	0.80
NF	35	29.41	0.98
NT	21	17.65	1.47
SJ	46	38.66	0.90
SP	17	14.29	0.95
NP	26	21.85	0.89
NJ	30	25.21	1.46"
TJ	34	28.57	1.27
TP	14	11.76	1.20
FP	29	24.37	0.82
FJ	42	35.29	0.93
IN	20	16.81	0.92
EN	36	30.25	1.28
IS	41	34.45	1.03
ES	22	18.49	0.75

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
# IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN NURSING AND ALLIED FIELDS
BASE TOTAL N = 2635. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.54	0.09	0.44	0.99
0.38	0.43	0.16	0.76
0.72	0.99	0.02	0.77
0.01	3.17	1.14	6.31

E	0.01	IJ	0.35	SJ	0.99	IN	0.16
I	0.01	IP	0.67	SP	0.05	EN	2.94
		EP	0.03	NP	0.52	IS	0.05
S	1.36	EJ	0.07	NJ	5.50	ES	2.48
N	1.36						
		ST	0.44	TJ	2.67		
T	3.68	SF	3.02	TP	0.53		
F	3.68	NF	0.01	FP	1.77		
		NT	3.78	FJ	0.35		
J	0.65						
P	0.65						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE E-24

GROUP
TABULATED:

NURSES
PSYCHIATRY

N= 79

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX:
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

	SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING
INTROVERTS JUDGING	I S T J N= 2 %= 2.53 I= 0.28"_	I S F J N= 8 %=10.13 I= 0.66	I N F J N= 6 %= 7.59 I= 1.64	I N T J N= 4 %= 5.06 I= 1.65
INTROVERTS PERCEPTIVES	I S T P N= 1 %= 1.27 I= 0.46	I S F P N= 3 %= 3.80 I= 0.59	I N F P N= 7 %= 8.86 I= 1.13	I N T P N= 6 %= 7.59 I= 2.90#
EXTRAVERTS PERCEPTIVES	E S T P N= 0 %= 0.0 I= 0.0	E S F P N= 3 %= 3.80 I= 0.91	E N F P N= 12 %=15.19 I= 1.34	E N T P N= 5 %= 6.33 I= 2.22
EXTRAVERTS JUDGING	E S T J N= 3 %= 3.80 I= 0.55	E S F J N= 6 %= 7.59 I= 0.64	E N F J N= 9 %=11.39 I= 1.86"	E N T J N= 4 %= 5.06 I= 1.47

	N	%	I
E	42	53.16	1.10
I	37	46.84	0.91
S	26	32.91	0.57*
N	53	67.09	1.60*
T	25	31.65	0.98
F	54	68.35	1.01
J	42	53.16	0.88
P	37	46.84	1.18
IJ	20	25.32	0.79
IP	17	21.52	1.09
EP	20	25.32	1.27
EJ	22	27.85	0.98
ST	6	7.59	0.37#
SF	20	25.32	0.67"
NF	34	43.04	1.44#
NT	19	24.05	2.01*
SJ	19	24.05	0.56*
SP	7	8.86	0.59
NP	30	37.97	1.54#
NJ	23	29.11	1.69#
TJ	13	16.46	0.73
TP	12	15.19	1.55
FP	25	31.65	1.06
FJ	29	36.71	0.97
IN	23	29.11	1.60"
EN	30	37.97	1.60#
IS	14	17.72	0.53#
ES	12	15.19	0.62"

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN NURSING AND ALLIED FIELDS
BASE TOTAL N = 2635. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.04	1.66	1.62	0.30
0.52	0.37	0.11	7.91
0.40	0.99	1.22	0.57
0.36	1.43	3.96	0.52

E	0.78	IJ	1.67	SJ	12.02	IN	6.55
I	0.78	IP	0.16	SP	2.43	EN	9.15
		EP	1.48	NP	7.81	IS	9.15
S	21.23	EJ	0.01	NJ	8.00	ES	3.86
N	21.23						
		ST	8.13	TJ	1.69		
T	0.02	SF	5.40	TP	2.64		
F	0.02	NF	6.70	FP	0.13		
		NT	11.22	FJ	0.05		
J	1.75						
P	1.75						

SOURCE OF DATA:

MARY H. MCCAULLEY. PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE E-25

GROUP
TABULATED:

NURSE WORK SETTING
HOSPITALS

N= 528

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
ISTJ N= 58 %=10.98 I= 1.22	ISFJ N= 117 %=22.16 I= 1.45*	INFJ N= 20 %= 3.79 I= 0.82	INTJ N= 8 %= 1.52 I= 0.49"	JUDGING	INTROVERTS
ISTP N= 15 %= 2.84 I= 1.03	ISFP N= 34 %= 6.44 I= 0.99	INFP N= 32 %= 6.06 I= 0.77	INTP N= 8 %= 1.52 I= 0.58	PERCEPTIVES	
ESTP N= 5 %= 0.95 I= 0.59	ESFP N= 31 %= 5.87 I= 1.41"	ENFP N= 41 %= 7.77 I= 0.69#	ENTP N= 13 %= 2.46 I= 0.87		EXTRAVERTS
ESTJ N= 36 %= 6.82 I= 0.90	ESFJ N= 73 %=13.83 I= 1.16	ENFJ N= 21 %= 3.98 I= 0.65"	ENTJ N= 16 %= 3.03 I= 0.88	JUDGING	

	N	%	I
E	236	44.70	0.93
I	292	55.30	1.07
S	369	69.89	1.20*
N	159	30.11	0.72*
T	159	30.11	0.93
F	369	69.89	1.03
J	349	56.10	1.10#
P	179	33.90	0.85#
IJ	203	38.45	1.20*
IP	89	16.86	0.85
EP	90	17.05	0.86
EJ	146	27.65	0.98
ST	114	21.59	1.06
SF	255	48.30	1.28*
NF	114	21.59	0.72*
NT	45	8.52	0.71#
SJ	284	53.79	1.25*
SP	85	16.10	1.07
NP	94	17.80	0.72*
NJ	65	12.31	0.71*
TJ	118	22.35	0.99
TP	41	7.77	0.79
FP	138	26.14	0.88"
FJ	231	43.75	1.16#
IN	68	12.88	0.71*
EN	91	17.23	0.73*
IS	224	42.42	1.26*
ES	145	27.46	1.12

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN NURSING AND ALLIED FIELDS
BASE TOTAL N = 2635. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

3.06	24.34	1.06	5.39
0.01	0.00	2.94	3.15
0.24	4.75	8.27	0.35
0.01	2.39	8.24	0.35

E	3.38
I	3.38
S	37.67
N	37.67
T	1.44
F	1.44
J	9.14
P	9.14
IJ	12.64
IP	3.45
EP	3.43
EJ	0.16
ST	0.68
SF	30.94
NF	21.78
NT	7.53
SJ	30.91
SP	0.59
NP	16.58
NJ	11.36
TJ	0.01
TP	3.17
FP	4.30
FJ	9.69
IN	12.47
EN	15.34
IS	23.33
ES	3.01

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE E-26

GROUP
TABULATED:

NURSE WORK SETTING
SCHOOL AND
PUBLIC HEALTH

N= 95

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

SENSING TYPES		INTUITIVE TYPES			
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING		
I S T J N= 6 %= 6.32 I= 0.70	I S F J N= 16 %=16.84 I= 1.10	I N F J N= 5 %= 5.26 I= 1.14	I N T J N= 6 %= 6.32 I= 2.05	JUDGING	INTROVERTS
I S T P N= 0 %= 0.0 I= 0.0	I S F P N= 2 %= 2.11 I= 0.32	I N F P N= 10 %=10.53 I= 1.34	I N T P N= 2 %= 2.11 I= 0.80	PERCEPTIVES	
E S T P N= 0 %= 0.0 I= 0.0	E S F P N= 5 %= 5.26 I= 1.26	E N F P N= 12 %=12.63 I= 1.12	E N T P N= 4 %= 4.21 I= 1.48		EXTRAVERTS
E S T J N= 8 %= 8.42 I= 1.22	E S F J N= 8 %= 8.42 I= 0.71	E N F J N= 3 %= 3.16 I= 0.52	E N T J N= 8 %= 8.42 I= 2.44#	JUDGING	

	N	%	I
E	48	50.53	1.05
I	47	49.47	0.96
S	45	47.37	0.82"
N	50	52.63	1.26"
T	34	35.79	1.11
F	61	64.21	0.95
J	60	63.16	1.05
P	35	36.84	0.93
IJ	33	34.74	1.09
IP	14	14.74	0.75
EP	21	22.11	1.11
EJ	27	28.42	1.00
ST	14	14.74	0.73
SF	31	32.63	0.86
NF	30	31.58	1.06
NT	20	21.05	1.76#
SJ	38	40.00	0.93
SP	7	7.37	0.49"
NP	28	29.47	1.20
NJ	22	23.16	1.34
TJ	28	29.47	1.31
TP	6	6.32	0.64
FP	29	30.53	1.02
FJ	32	33.68	0.89
IN	23	24.21	1.33
EN	27	28.42	1.20
IS	24	25.26	0.75
ES	21	22.11	0.90

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN NURSING AND ALLIED FIELDS
BASE TOTAL N = 2635. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.89	0.19	0.80	3.48
0.11	0.09	0.97	0.99
0.27	0.59	0.17	0.52
0.35	1.13	0.28	7.29

E	0.20	IJ	0.34	SJ	0.38	IN	2.41
I	0.20	IP	1.55	SP	4.53	EN	1.20
		EP	0.29	NP	1.25	IS	3.03
S	4.66	EJ	0.00	NJ	2.39	ES	0.32
N	4.66						
		ST	1.89	TJ	2.78		
T	0.55	SF	1.12	TP	1.37		
F	0.55	NF	0.13	FP	0.02		
		NT	7.67	FJ	0.74		
J	0.33						
P	0.33						

Appendix F

Optometry

Table Number	Name of Group Tabulated	Number in Group	Compared to Base
F 1	Optometry: All Students & Practitioners	116	32,271
F 2	Optometry: All Students & Practitioners	116	6,738
F 3	Optometry: Students	91	116

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE F-1

GROUP
TABULATED:

COMPOSITE OF
STUDENTS AND
PRACTITIONERS IN
OPTOMETRY

N= 116

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 11 %= 9.48 I= 1.13	I S F J N= 14 %=12.07 I= 1.15	I N F J N= 10 %= 8.62 I= 1.61	I N T J N= 8 %= 6.90 I= 1.70	JUDGING INTROVERTS
I S T P N= 3 %= 2.59 I= 1.10	I S F P N= 5 %= 4.31 I= 0.94	I N F P N= 4 %= 3.45 I= 0.39"_	I N T P N= 5 %= 4.31 I= 1.17	INTROVERTS PERCEPTIVES
E S T P N= 4 %= 3.45 I= 1.80	E S F P N= 4 %= 3.45 I= 0.75	E N F P N= 14 %=12.07 I= 1.07	E N T P N= 2 %= 1.72 I= 0.48	PERCEPTIVES EXTRAVERTS
E S T J N= 7 %= 6.03 I= 0.78	E S F J N= 14 %=12.07 I= 1.07	E N F J N= 5 %= 4.31 I= 0.59	E N T J N= 6 %= 5.17 I= 1.13	JUDGING EXTRAVERTS

	N	%	I
E	56	48.28	0.92
I	60	51.72	1.09
S	62	53.45	1.04
N	54	46.55	0.96
T	46	39.66	1.09
F	70	60.34	0.95
J	75	64.66	1.09
P	41	35.34	0.87
IJ	43	37.07	1.31"
IP	17	14.66	0.76
EP	24	20.69	0.96
EJ	32	27.59	0.89
ST	25	21.55	1.06
SF	37	31.90	1.03
NF	33	28.45	0.87
NT	21	18.10	1.13
SJ	46	39.66	1.05
SP	16	13.79	1.03
NP	25	21.55	0.79
NJ	29	25.00	1.18
TJ	32	27.59	1.11
TP	14	12.07	1.04
FP	27	23.28	0.80
FJ	43	37.07	1.08
IN	27	23.28	1.07
EN	27	23.28	0.87
IS	33	28.45	1.10
ES	29	25.00	0.98

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS & PRACTITIONERS IN ALL HEALTH AND HEALTH RELATED FIELDS.
BASE TOTAL N = 32271. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.19	0.30	2.46	2.40
0.84	0.86	0.04	0.65
0.25	0.56	0.07	0.28
0.48	0.07	0.23	0.09

E	0.78	IJ	4.42	SJ	0.15	IN	0.14
I	0.78	IP	1.64	SP	0.01	EN	0.73
		EP	0.04	NP	1.99	IS	0.43
S	0.20	EJ	0.60	NJ	0.98	ES	0.02
N	0.20						
		ST	0.10	TJ	0.50		
T	0.56	SF	0.04	TP	0.03		
F	0.56	NF	0.94	FP	2.00		
		NT	0.40	FJ	0.36		
J	1.44						
P	1.44						

```
SOURCE OF DATA:                      GROUP                 MBTI TYPE TABLE
                                   TABULATED:          CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                               OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS            COMPOSITE OF
HEW CONTRACT 231-76-0051           STUDENTS AND        LEGEND: % = PERCENT OF
 AMSA FOUNDATION - CAPT         PRACTITIONERS IN       TOTAL CHOOSING THIS GROUP
                                   OPTOMETRY           WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                 I = SELFSELECTION INDEX;
                                                       RATIO OF PERCENT OF TYPE
                                    N=  116            IN GROUP TO % IN SAMPLE.
 TABLE F-2

     SENSING TYPES                INTUITIVE TYPES
WITH           WITH           WITH           WITH                           N     %       I
THINKING       FEELING        FEELING        THINKING
--------------------------------------------------------------       E     56  48.28   0.86
| I S T J     | I S F J     | I N F J     | I N T J     |  J          I     60  51.72   1.18
|             |             |             |             |  U
|             |             |             |             |  D          S     62  53.45   0.94
| N=  11      | N=  14      | N=  10      | N=   8      |  G          N     54  46.55   1.08
|             |             |             |             |  I
| %= 9.48     | %=12.07     | %= 8.62     | %= 6.90     |  N  I       T     46  39.66   1.13
|             |             |             |             |  G  N       F     70  60.34   0.93
| I= 1.54     | I= 1.65     | I= 2.86*    | I= 3.02#    |     T
|             |             |             |             |     R       J     75  64.66   1.49*
--------------------------------------------------------------  O       P     41  35.34   0.63*
| I S T P     | I S F P     | I N F P     | I N T P     |     V
|             |             |             |             |     E       IJ    43  37.07   1.97*
|             |             |             |             |     R       IP    17  14.66   0.59"
| N=   3      | N=   5      | N=   4      | N=   5      |     T
|             |             |             |             |     S       EP    24  20.69   0.66"
| %= 2.59     | %= 4.31     | %= 3.45     | %= 4.31     |  P          EJ    32  27.59   1.12
|             |             |             |             |  E
| I= 0.67     | I= 0.56     | I= 0.37"    | I= 1.07     |  R          ST    25  21.55   1.00
|             |             |             |             |  C          SF    37  31.90   0.90
--------------------------------------------------------------  E
| E S T P     | E S F P     | E N F P     | E N T P     |  P          NF    33  28.45   0.97
|             |             |             |             |  T          NT    21  18.10   1.33
|             |             |             |             |  I
| N=   4      | N=   4      | N=  14      | N=   2      |  V          SJ    46  39.66   1.27
|             |             |             |             |  E          SP    16  13.79   0.54#
| %= 3.45     | %= 3.45     | %=12.07     | %= 1.72     |  S  E
|             |             |             |             |     X       NP    25  21.55   0.70"
| I= 0.78     | I= 0.36"    | I= 0.94     | I= 0.38     |     T       NJ    29  25.00   2.04*
|             |             |             |             |     R
--------------------------------------------------------------  A       TJ    32  27.59   1.51#
| E S T J     | E S F J     | E N F J     | E N T J     |  J  V       TP    14  12.07   0.72
|             |             |             |             |  U  E
|             |             |             |             |  D  R       FP    27  23.28   0.59*
| N=   7      | N=  14      | N=   5      | N=   6      |  G  T       FJ    43  37.07   1.47#
|             |             |             |             |  I  S
| %= 6.03     | %=12.07     | %= 4.31     | %= 5.17     |  N          IN    27  23.28   1.25
|             |             |             |             |  G          EN    27  23.28   0.96
| I= 0.86     | I= 1.12     | I= 1.03     | I= 1.87     |
|             |             |             |             |             IS    33  28.45   1.13
--------------------------------------------------------------              ES    29  25.00   0.78

  NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
         #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
         *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

  BASE POPULATION USED IN CALCULATING SELECTION RATIO:
  HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
  BASE TOTAL N =  6738. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

      TYPE TABLE ORDER            E   2.94   IJ  24.72   SJ   3.72   IN  1.59
                                  I   2.94   IP   6.52   SP   8.50   EN  0.07
2.19    3.73    11.91   10.51                EP   6.20   NP   4.59   IS  0.69
                                  S   0.57   EJ   0.50   NJ  17.01   ES  2.49
0.62    0.21    0.03    0.95      N   0.57
                                             ST   0.00   TJ   6.64
0.65    0.02    0.07    0.17      T   1.04   SF   0.64   TP   1.87
                                  F   1.04   NF   0.05   FP  12.77
0.18    0.21    0.96    2.44                 NT   1.95   FJ   8.36
                                  J  20.70
                                  P  20.70
```

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SOURCE OF DATA:                          GROUP                 MBTI TYPE TABLE
                                       TABULATED:          CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY. PH.D.                                   OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS              COMPOSITE OF
 HEW CONTRACT 231-76-0051             STUDENTS IN          LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT                                   TOTAL CHOOSING THIS GROUP
                                       OPTOMETRY           WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                     I = SELFSELECTION INDEX:
                                                           RATIO OF PERCENT OF TYPE
                                        N=    91           IN GROUP TO % IN SAMPLE.
 TABLE F-3

      SENSING TYPES               INTUITIVE TYPES
 WITH         WITH          WITH          WITH                            N     %       I
 THINKING     FEELING       FEELING       THINKING
 ---------------------------------------------------------       E      42  46.15   0.96
| I S T J    | I S F J    | I N F J    | I N T J    | J          I      49  53.85   1.04
|            |            |            |            | U
|            |            |            |            | D          S      48  52.75   0.99
| N=   9     | N=  11     | N=   7     | N=   8     | G          N      43  47.25   1.02
|            |            |            |            | I
| %= 9.89    | %=12.09    | %= 7.69    | %= 8.79    | N I        T      37  40.66   1.03
|            |            |            |            | G N        F      54  59.34   0.98
| I= 1.04    | I= 1.00    | I= 0.89    | I= 1.27    |   T
|            |            |            |            |   R        J      57  62.64   0.97
 ---------------------------------------------------------   O        P      34  37.36   1.06
| I S T P    | I S F P    | I N F P    | I N T P    |   V
|            |            |            |            |   E        IJ     35  38.46   1.04
|            |            |            |            |   R        IP     14  15.38   1.05
| N=   2     | N=   5     | N=   3     | N=   4     |   T
|            |            |            |            |   S        EP     20  21.98   1.06
| %= 2.20    | %= 5.49    | %= 3.30    | %= 4.40    | P          EJ     22  24.18   0.88
|            |            |            |            | E
| I= 0.85    | I= 1.27    | I= 0.96    | I= 1.02    | R          ST     18  19.78   0.92
|            |            |            |            | C          SF     30  32.97   1.03
 ---------------------------------------------------------  E
| E S T P    | E S F P    | E N F P    | E N T P    | P          NF     24  26.37   0.93
|            |            |            |            | T          NT     19  20.88   1.15
|            |            |            |            | I
| N=   2     | N=   4     | N=  12     | N=   2     | V          SJ     35  38.46   0.97
|            |            |            |            | E          SP     13  14.29   1.04
| %= 2.20    | %= 4.40    | %=13.19    | %= 2.20    | S E
|            |            |            |            |   X        NP     21  23.08   1.07
| I= 0.64    | I= 1.27    | I= 1.09    | I= 1.27    |   T        NJ     22  24.18   0.97
|            |            |            |            |   R
 ---------------------------------------------------------    A        TJ     27  29.67   1.08
| E S T J    | E S F J    | E N F J    | E N T J    | J V        TP     10  10.99   0.91
|            |            |            |            | U E
|            |            |            |            | D R        FP     24  26.37   1.13
| N=   5     | N=  10     | N=   2     | N=   5     | G T        FJ     30  32.97   0.89
|            |            |            |            | I S
| %= 5.49    | %=10.99    | %= 2.20    | %= 5.49    | N          IN     22  24.18   1.04
|            |            |            |            | G          EN     21  23.08   0.99
| I= 0.91    | I= 0.91    | I= 0.51    | I= 1.06    |
|            |            |            |            |            IS     27  29.67   1.04
 ---------------------------------------------------------               ES     21  23.08   0.92

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         *  IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. >  3.8;
         #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. >  6.6;
         *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
  (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COMPOSITE OF STUDENTS AND PRACTITIONERS IN OPTOMETRY
   BASE TOTAL N =    116. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

       TYPE TABLE ORDER              E    0.76     IJ    0.35     SJ    0.25     IN   0.79
                                     I    0.76     IP    0.76     SP    1.00     EN   0.01
  1.00     1.00     0.69     0.20                  EP    0.59     NP    0.58     IS   0.31
                                     S    0.08     EJ    2.46     NJ    0.15     ES   0.83
  1.00     0.36     1.00     1.00    N    0.08
                                                   ST    0.78     TJ    0.45
  0.20     0.58     0.53     1.00    T    0.18     SF    0.22     TP    0.73
                                     F    0.18     NF    0.89     FP    0.18
  1.00     0.73     0.07     1.00                  NT    0.16     FJ    3.05
                                     J    0.75
                                     P    0.75
```

Appendix G

Pharmacy and Allied Fields

Table Number	Name of Group Tabulated	Number in Group	Compared to Base
G 1	All Students and Practitioners	2,712	32,271
G 2	Pharmacy Students	2,433	6,738
G 3	Pharmacy Students for Whom Sex is Known	2,122	2,433
G 4	Pharmacy Students: Males	1,438	3,907
G 5	Pharmacy Students: Females	684	2,831
G 6	Pharmacy and Allied Fields: Practitioners	279	2,712
G 7	Practicing Pharmacists	123	2,712
G 8	Pharmacy Interns	72	2,712

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

COMPOSITE: STUDENTS
AND PRACTITIONERS IN
PHARMACY AND
ALLIED FIELDS

N= 2712

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE. I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE G-1

SENSING TYPES		INTUITIVE TYPES		
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING	
I S T J N= 308 %=11.36 I= 1.36*	I S F J N= 291 %=10.73 I= 1.02	I N F J N= 126 %= 4.65 I= 0.87	I N T J N= 129 %= 4.76 I= 1.17	JUDGING INTROVERTS
I S T P N= 112 %= 4.13 I= 1.76*	I S F P N= 125 %= 4.61 I= 1.01	I N F P N= 191 %= 7.04 I= 0.81#	I N T P N= 144 %= 5.31 I= 1.44*	PERCEPTIVES
E S T P N= 75 %= 2.77 I= 1.44*	E S F P N= 113 %= 4.17 I= 0.90	E N F P N= 206 %= 7.60 I= 0.67*	E N T P N= 128 %= 4.72 I= 1.30#	PERCEPTIVES EXTRAVERTS
E S T J N= 246 %= 9.07 I= 1.17#	E S F J N= 235 %= 8.67 I= 0.77*	E N F J N= 154 %= 5.68 I= 0.78*	E N T J N= 129 %= 4.76 I= 1.04	JUDGING

	N	%	I
E	1286	47.42	0.91*
I	1426	52.58	1.10*
S	1505	55.49	1.08*
N	1207	44.51	0.92*
T	1271	46.87	1.29*
F	1441	53.13	0.83*
J	1618	59.66	1.01
P	1094	40.34	0.99
IJ	854	31.49	1.11*
IP	572	21.09	1.09"
EP	522	19.25	0.90#
EJ	764	28.17	0.91#
ST	741	27.32	1.34*
SF	764	28.17	0.91*
NF	677	24.96	0.76*
NT	530	19.54	1.22*
SJ	1080	39.82	1.05"
SP	425	15.67	1.17*
NP	669	24.67	0.90*
NJ	538	19.84	0.93
TJ	812	29.94	1.21*
TP	459	16.92	1.46*
FP	635	23.41	0.80*
FJ	806	29.72	0.86*
IN	590	21.76	1.00
EN	617	22.75	0.85*
IS	836	30.83	1.20*
ES	669	24.67	0.96

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS & PRACTITIONERS IN ALL HEALTH AND HEALTH RELATED FIELDS.
BASE TOTAL N = 32271. SAMPLE AND BASE ARE DEPENDENT.

```
* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER             E  29.09    IJ  14.96    SJ   4.47    IN   0.02
                                     I  29.09    IP   5.81    SP  12.71    EN  24.47
34.78     0.14     2.89     3.66                 EP   8.70    NP  10.96    IS  39.37
                                     S  20.12    EJ  10.29    NJ   3.50    ES   1.33
41.33     0.02    10.75    21.74     N  20.12
                                                 ST  88.48    TJ  42.90
11.30     1.35    40.90    10.21     T 142.27    SF  11.17    TP  82.72
                                     F 142.27    NF  79.83    FP  48.56
 7.30    20.74    10.89     0.20                 NT  28.31    FJ  29.18
                                     J   0.28
                                     P   0.28
```

```
SOURCE OF DATA:                        GROUP                MBTI TYPE TABLE
                                     TABULATED:         CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                 OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS             COMPOSITE OF
 HEW CONTRACT 231-76-0051           STUDENTS IN         LEGEND: % = PERCENT OF
 AMSA FOUNDATION - CAPT             PHARMACY AND        TOTAL CHOOSING THIS GROUP
                                   ALLIED FIELDS        WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                  I = SELFSELECTION INDEX:
                                                        RATIO OF PERCENT OF TYPE
                                      N= 2433           IN GROUP TO % IN SAMPLE.
 TABLE G-2

    SENSING TYPES                INTUITIVE TYPES
 WITH          WITH          WITH          WITH                                 N      %      I
 THINKING      FEELING       FEELING       THINKING
-------------------------------------------------------------            E     1157  47.55  0.85*
| I S T J      | I S F J      | I N F J      | I N T J      |  J         I     1276  52.45  1.20*
|              |              |              |              |  U
|              |              |              |              |  D         S     1359  55.86  0.98
| N= 274       | N= 263       | N= 109       | N= 112       |  G         N     1074  44.14  1.03
|              |              |              |              |  I
| %=11.26      | %=10.81      | %= 4.48      | %= 4.60      |  N I       T     1132  46.53  1.33*
|              |              |              |              |  G N       F     1301  53.47  0.82*
| I= 1.83*     | I= 1.47*     | I= 1.49*     | I= 2.01*     |    T
|              |              |              |              |    R       J     1441  59.23  1.36*
-------------------------------------------------------------    O       P      992  40.77  0.72*
| I S T P      | I S F P      | I N F P      | I N T P      |    V
|              |              |              |              |    E       IJ     758  31.15  1.66*
|              |              |              |              |    R       IP     518  21.29  0.85*
| N= 100       | N= 118       | N= 177       | N= 123       |    T
|              |              |              |              |    S       EP     474  19.48  0.62*
| %= 4.11      | %= 4.85      | %= 7.27      | %= 5.06      |  P         EJ     683  28.07  1.13#
|              |              |              |              |  E
| I= 1.06      | I= 0.63*     | I= 0.78#     | I= 1.26"     |  R         ST     663  27.25  1.27*
|              |              |              |              |  C         SF     696  28.61  0.81*
-------------------------------------------------------------  E
| E S T P      | E S F P      | E N F P      | E N T P      |  P         NF     605  24.87  0.84*
|              |              |              |              |  T         NT     469  19.28  1.42*
|              |              |              |              |  I
| N=  66       | N= 105       | N= 189       | N= 114       |  V         SJ     970  39.87  1.27*
|              |              |              |              |  E         SP     389  15.99  0.62*
| %= 2.71      | %= 4.32      | %= 7.77      | %= 4.69      |  S E
|              |              |              |              |    X       NP     603  24.78  0.80*
| I= 0.62*     | I= 0.45*     | I= 0.60*     | I= 1.03      |    T       NJ     471  19.36  1.58*
|              |              |              |              |    R
-------------------------------------------------------------    A       TJ     729  29.96  1.64*
| E S T J      | E S F J      | E N F J      | E N T J      |  J V       TP     403  16.56  0.98
|              |              |              |              |  U E
|              |              |              |              |  D R       FP     589  24.21  0.61*
| N= 223       | N= 210       | N= 130       | N= 120       |  G T       FJ     712  29.26  1.16*
|              |              |              |              |  I S
| %= 9.17      | %= 8.63      | %= 5.34      | %= 4.93      |  N         IN     521  21.41  1.15#
|              |              |              |              |  G         EN     553  22.73  0.93
| I= 1.30*     | I= 0.80#     | I= 1.28"     | I= 1.79*     |
|              |              |              |              |            IS     755  31.03  1.24*
-------------------------------------------------------------            ES     604  24.83  0.78*

    NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
          "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
          #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
          *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
   (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

    BASE POPULATION USED IN CALCULATING SELECTION RATIO:
    HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
    BASE TOTAL N =  6738. SAMPLE AND BASE ARE INDEPENDENT.

  * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

          TYPE TABLE ORDER             E   54.38    IJ 159.37    SJ  59.27    IN   8.61
                                       I   54.38    IP  13.32    SP  94.67    EN   2.64
  67.46    28.56    11.71    34.10                  EP 127.35    NP  31.24    IS  32.37
                                       S    0.89    EJ  10.41    NJ  74.57    ES  42.34
   0.23    22.71     9.59     4.64     N    0.89
                                                    ST  33.47    TJ 146.30
  13.51    67.83    45.85     0.09     T   98.95    SF  37.72    TP   0.11
                                       F   98.95    NF  18.38    FP 185.47
  11.38     8.73     5.59    26.14                  NT  44.75    FJ  14.67
                                       J  176.91
                                       P  176.91
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE G-3

GROUP
TABULATED:

PHARMACY STUDENTS
FOR WHOM
SEX IS KNOWN

N= 2122

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 242 %=11.40 I= 1.01	I S F J N= 225 %=10.60 I= 0.98	I N F J N= 91 %= 4.29 I= 0.96	I N T J N= 100 %= 4.71 I= 1.02	JUDGING	INTROVERTS
I S T P N= 90 %= 4.24 I= 1.03	I S F P N= 106 %= 5.00 I= 1.03	I N F P N= 151 %= 7.12 I= 0.98	I N T P N= 115 %= 5.42 I= 1.07"	PERCEPTIVES	
E S T P N= 59 %= 2.78 I= 1.02	E S F P N= 88 %= 4.15 I= 0.96	E N F P N= 161 %= 7.59 I= 0.98	E N T P N= 100 %= 4.71 I= 1.01		EXTRAVERTS
E S T J N= 196 %= 9.24 I= 1.01	E S F J N= 179 %= 8.44 I= 0.98	E N F J N= 109 %= 5.14 I= 0.96	E N T J N= 110 %= 5.18 I= 1.05	JUDGING	

	N	%	I
E	1002	47.22	0.99
I	1120	52.78	1.01
S	1185	55.84	1.00
N	937	44.16	1.00
T	1012	47.69	1.03#
F	1110	52.31	0.98#
J	1252	59.00	1.00
P	870	41.00	1.01
IJ	658	31.01	1.00
IP	462	21.77	1.02
EP	408	19.23	0.99
EJ	594	27.99	1.00
ST	587	27.66	1.02
SF	598	28.18	0.99
NF	512	24.13	0.97"
NT	425	20.03	1.04"
SJ	842	39.68	1.00
SP	343	16.16	1.01
NP	527	24.84	1.00
NJ	410	19.32	1.00
TJ	648	30.54	1.02
TP	364	17.15	1.04"
FP	506	23.85	0.98
FJ	604	28.46	0.97"
IN	457	21.54	1.01
EN	480	22.62	1.00
IS	663	31.24	1.01
ES	522	24.60	0.99

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS IN PHARMACY AND ALLIED FIELDS
BASE TOTAL N = 2433. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.34	0.73	1.42	0.45
0.72	0.76	0.62	4.58
0.29	1.14	0.76	0.03
0.10	0.81	1.40	2.24

E	0.75	IJ	0.17	SJ	0.25	IN	0.15
I	0.75	IP	2.30	SP	0.38	EN	0.11
		EP	0.69	NP	0.02	IS	0.35
S	0.00	EJ	0.05	NJ	0.01	ES	0.45
N	0.00						
		ST	1.42	TJ	2.61		
T	9.04	SF	1.47	TP	4.18		
F	9.04	NF	4.84	FP	1.19		
		NT	6.03	FJ	5.14		
J	0.35						
P	0.35						

```
SOURCE OF DATA:                    GROUP               MBTI TYPE TABLE
                                 TABULATED:          CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                              OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS        PHARMACY STUDENTS;
 HEW CONTRACT 231-76-0051            MALES           LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT                             TOTAL CHOOSING THIS GROUP
                                                     WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                               I = SELFSELECTION INDEX;
                                                     RATIO OF PERCENT OF TYPE
                                     N= 1438         IN GROUP TO % IN SAMPLE.
 TABLE G-4

      SENSING TYPES                       INTUITIVE TYPES
  WITH             WITH               WITH             WITH                                   N      %      I
  THINKING         FEELING            FEELING          THINKING
-----------------------------------------------------------------------------            E    671  46.66  0.89*
| I S T J          | I S F J          | I N F J          | I N T J          |  J         I    767  53.34  1.12*
|                  |                  |                  |                  |  U
|                  |                  |                  |                  |  D         S    812  56.47  0.97
| N= 182           | N= 141           | N=  54           | N=  81           |  G         N    626  43.53  1.04
|                  |                  |                  |                  |  I
| %=12.66          | %= 9.81          | %= 3.76          | %= 5.63          |  N I       T    755  52.50  1.16*
|                  |                  |                  |                  |  G N       F    683  47.50  0.87*
| I= 1.55*         | I= 1.53*         | I= 1.18          | I= 1.76*         |    T
|                  |                  |                  |                  |    R       J    867  60.29  1.35*
-----------------------------------------------------------------------------    O       P    571  39.71  0.72*
| I S T P          | I S F P          | I N F P          | I N T P          |    V
|                  |                  |                  |                  |    E       IJ   458  31.85  1.52*
|                  |                  |                  |                  |    R       IP   309  21.49  0.80*
| N=  65           | N=  66           | N=  97           | N=  81           |    T
|                  |                  |                  |                  |    S       EP   262  18.22  0.64*
| %= 4.52          | %= 4.59          | %= 6.75          | %= 5.63          |  P         EJ   409  28.44  1.20*
|                  |                  |                  |                  |  E
| I= 0.84          | I= 0.60*         | I= 0.78"         | I= 1.10          |  R         ST   438  30.46  1.08
|                  |                  |                  |                  |  C         SF   374  26.01  0.87#
-----------------------------------------------------------------------------  E
| E S T P          | E S F P          | E N F P          | E N T P          |  P         NF   309  21.49  0.87"
|                  |                  |                  |                  |  T         NT   317  22.04  1.28*
|                  |                  |                  |                  |  I
| N=  43           | N=  54           | N=  95           | N=  70           |  V         SJ   584  40.61  1.28*
|                  |                  |                  |                  |  E         SP   228  15.86  0.60*
| %= 2.99          | %= 3.76          | %= 6.61          | %= 4.87          |  S E
|                  |                  |                  |                  |    X       NP   343  23.85  0.83*
| I= 0.54*         | I= 0.47*         | I= 0.69*         | I= 0.89          |    T       NJ   283  19.68  1.50*
|                  |                  |                  |                  |    R
-----------------------------------------------------------------------------    A       TJ   496  34.49  1.44*
| E S T J          | E S F J          | E N F J          | E N T J          |  J V       TP   259  18.01  0.84#
|                  |                  |                  |                  |  U E
|                  |                  |                  |                  |  D R       FP   312  21.70  0.64*
| N= 148           | N= 113           | N=  63           | N=  85           |  G T       FJ   371  25.80  1.24*
|                  |                  |                  |                  |  I S
| %=10.29          | %= 7.86          | %= 4.38          | %= 5.91          |  N         IN   313  21.77  1.08
|                  |                  |                  |                  |  G         EN   313  21.77  1.00
| I= 1.13          | I= 0.99          | I= 1.35"         | I= 1.71*         |
|                  |                  |                  |                  |            IS   454  31.57  1.14#
-----------------------------------------------------------------------------            ES   358  24.90  0.81*

    NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
          "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
          #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
          *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

    BASE POPULATION USED IN CALCULATING SELECTION RATIO:
    MALE HIGH SCHOOL JUNIORS AND SENIORS ON THE CAPT DATA BANK
    BASE TOTAL N =  3907. SAMPLE AND BASE ARE INDEPENDENT.

  * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER              E  13.32    IJ  69.24    SJ  37.94    IN   1.75
                                      I  13.32    IP  15.65    SP  66.45    EN   0.00
 25.29    17.99     1.10    16.80                 EP  58.26    NP  12.76    IS   8.14
                                      S   1.22    EJ  12.19    NJ  36.21    ES  16.37
  1.57    15.72     4.98     0.56     N   1.22
                                                  ST   2.66    TJ  59.80
 14.69    29.21    11.38     0.78     T  21.09    SF   8.04    TP   7.83
                                      F  21.09    NF   5.61    FP  72.70
  1.64     0.01     3.92    16.06                 NT  15.99    FJ  15.51
                                      J 102.41
                                      P 102.41
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE G-5

GROUP
TABULATED:

PHARMACY STUDENTS;
FEMALES

N= 684

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	 WITH FEELING	INTUITIVE TYPES WITH FEELING	 WITH THINKING		
I S T J N= 60 %= 8.77 I= 2.59*	I S F J N= 84 %=12.28 I= 1.42#	I N F J N= 37 %= 5.41 I= 1.94*	I N T J N= 19 %= 2.78 I= 2.71*	JUDGING	INTROVERTS
I S T P N= 25 %= 3.65 I= 1.99#	I S F P N= 40 %= 5.85 I= 0.75	I N F P N= 54 %= 7.89 I= 0.76	I N T P N= 34 %= 4.97 I= 1.98*	PERCEPTIVES	
E S T P N= 16 %= 2.34 I= 0.82	E S F P N= 34 %= 4.97 I= 0.41*	E N F P N= 66 %= 9.65 I= 0.55*	E N T P N= 30 %= 4.39 I= 1.35		EXTRAVERTS
E S T J N= 48 %= 7.02 I= 1.68#	E S F J N= 66 %= 9.65 I= 0.66*	E N F J N= 46 %= 6.73 I= 1.23	E N T J N= 25 %= 3.65 I= 2.03#	JUDGING	

	N	%	I
E	331	48.39	0.78*
I	353	51.61	1.35*
S	373	54.53	0.99
N	311	45.47	1.02
T	257	37.57	1.80*
F	427	62.43	0.79*
J	385	56.29	1.34*
P	299	43.71	0.75*
IJ	200	29.24	1.85*
IP	153	22.37	1.00
EP	146	21.35	0.60*
EJ	185	27.05	1.04
ST	149	21.78	1.78*
SF	224	32.75	0.76*
NF	203	29.68	0.82#
NT	108	15.79	1.84*
SJ	258	37.72	1.22*
SP	115	16.81	0.69*
NP	184	26.90	0.80*
NJ	127	18.57	1.67*
TJ	152	22.22	2.14*
TP	105	15.35	1.47*
FP	194	28.36	0.60*
FJ	233	34.06	1.08
IN	144	21.05	1.26#
EN	167	24.42	0.87
IS	209	30.56	1.41*
ES	164	23.98	0.71*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
# IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
FEMALE HIGH SCHOOL JUNIORS AND SENIORS ON THE CAPT DATA BANK
BASE TOTAL N = 2831. SAMPLE AND BASE ARE INDEPENDENT.

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* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

       TYPE TABLE ORDER              E  40.43   IJ  65.93   SJ  12.08   IN   7.31
                                     I  40.43   IP   0.00   SP  18.44   EN   3.59
 37.61    8.73   11.84   12.57                  EP  51.03   NP  11.28   IS  24.58
                                     S   0.14   EJ   0.27   NJ  28.06   ES  24.00
  8.50    2.97    3.73   11.53       N   0.14
                                                ST  41.25   TJ  69.68
  0.56   28.93   25.22    2.12       T  84.33   SF  24.20   TP  13.06
                                     F  84.33   NF  10.01   FP  83.22
  9.94   11.56    1.60    8.95                  NT  31.82   FJ   1.65
                                     J  46.17
                                     P  46.17
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE G-6

GROUP
TABULATED:

COMPOSITE OF
PRACTITIONERS IN
PHARMACY AND
ALLIED FIELDS

N= 279

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX:
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 34 %=12.19 I= 1.07	I S F J N= 28 %=10.04 I= 0.94	I N F J N= 17 %= 6.09 I= 1.31	I N T J N= 17 %= 6.09 I= 1.28	JUDGING	INTROVERTS
I S T P N= 12 %= 4.30 I= 1.04	I S F P N= 7 %= 2.51 I= 0.54	I N F P N= 14 %= 5.02 I= 0.71	I N T P N= 21 %= 7.53 I= 1.42	PERCEPTIVES	
E S T P N= 9 %= 3.23 I= 1.17	E S F P N= 8 %= 2.87 I= 0.69	E N F P N= 17 %= 6.09 I= 0.80	E N T P N= 14 %= 5.02 I= 1.06		EXTRAVERTS
E S T J N= 23 %= 8.24 I= 0.91	E S F J N= 25 %= 8.96 I= 1.03	E N F J N= 24 %= 8.60 I= 1.51"	E N T J N= 9 %= 3.23 I= 0.68	JUDGING	

	N	%	I
E	129	46.24	0.98
I	150	53.76	1.02
S	146	52.33	0.94
N	133	47.67	1.07
T	139	49.82	1.06
F	140	50.18	0.94
J	177	63.44	1.06
P	102	36.56	0.91
IJ	96	34.41	1.09
IP	54	19.35	0.92
EP	48	17.20	0.89
EJ	81	29.03	1.03
ST	78	27.96	1.02
SF	68	24.37	0.87
NF	72	25.81	1.03
NT	61	21.86	1.12
SJ	110	39.43	0.99
SP	36	12.90	0.82
NP	66	23.66	0.96
NJ	67	24.01	1.21
TJ	83	29.75	0.99
TP	56	20.07	1.19
FP	46	16.49	0.70#
FJ	94	33.69	1.13
IN	69	24.73	1.14
EN	64	22.94	1.01
IS	81	29.03	0.94
ES	65	23.30	0.94

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS AND PRACTITIONERS IN PHARMACY AND ALLIED FIELDS
BASE TOTAL N = 2712. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR _FISHER'S EXACT PROBABILITY_ * * * *

TYPE TABLE ORDER

0.21	0.16	1.47	1.23
0.02	3.12	1.95	3.04
0.25	1.31	1.00	0.06
0.26	0.03	4.96	1.61

E	0.17	IJ	1.23	SJ	0.02	IN	1.62
I	0.17	IP	0.56	SP	1.80	EN	0.01
		EP	0.84	NP	0.17	IS	0.47
S	1.26	EJ	0.11	NJ	3.4'	ES	0.31
N	1.26						
		ST	0.06	TJ	0.01		
T	1.09	SF	2.22	TP	2.19		
F	1.09	NF	0.12	FP	8.32		
		NT	1.07	FJ	2.35		
J	1.85						
P	1.85						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

PRACTICING
PHARMACISTS

N= 123

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE. I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE G-7

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 13 %=10.57 I= 0.93	I S F J N= 10 %= 8.13 I= 0.76	I N F J N= 10 %= 8.13 I= 1.75	I N T J N= 7 %= 5.69 I= 1.20	JUDGING INTROVERTS
I S T P N= 6 %= 4.88 I= 1.18	I S F P N= 3 %= 2.44 I= 0.53	I N F P N= 6 %= 4.88 I= 0.69	I N T P N= 11 %= 8.94 I= 1.68	PERCEPTIVES INTROVERTS
E S T P N= 7 %= 5.69 I= 2.06"	F S F P N= 2 %= 1.63 I= 0.39	E N F P N= 7 %= 5.69 I= 0.75	E N T P N= 6 %= 4.88 I= 1.03	PERCEPTIVES EXTRAVERTS
E S T J N= 10 %= 8.13 I= 0.90	E S F J N= 8 %= 6.50 I= 0.75	E N F J N= 13 %=10.57 I= 1.86"	E N T J N= 4 %= 3.25 I= 0.68	JUDGING EXTRAVERTS

	N	%	I
E	57	46.34	0.98
I	66	53.66	1.02
S	59	47.97	0.86
N	64	52.03	1.17
T	64	52.03	1.11
F	59	47.97	0.90
J	75	60.98	1.02
P	48	39.02	0.97
IJ	40	32.52	1.03
IP	26	21.14	1.00
EP	22	17.89	0.93
EJ	35	28.46	1.01
ST	36	29.27	1.07
SF	23	18.70	0.66"
NF	36	29.27	1.17
NT	28	22.76	1.16
SJ	41	33.33	0.84
SP	18	14.63	0.93
NP	30	24.39	0.99
NJ	34	27.64	1.39"
TJ	34	27.64	0.92
TP	30	24.39	1.44"
FP	18	14.63	0.63"
FJ	41	33.33	1.12
IN	34	27.64	1.27
EN	30	24.39	1.07
IS	32	26.02	0.84
ES	27	21.95	0.89

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS AND PRACTITIONERS IN PHARMACY AND ALLIED FIELDS
BASE TOTAL N = 2712. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.08	0.91	3.53	0.25
0.18	0.28	0.92	3.38
4.10	0.17	0.67	0.01
0.14	0.76	5.75	0.52

E	0.06	IJ	0.06	SJ	2.26	IN	2.62
I	0.06	IP	0.00	SP	0.10	EN	0.20
		EP	0.15	NP	0.01	IS	1.40
S	2.96	EJ	0.01	NJ	4.94	ES	0.51
N	2.96						
		ST	0.25	TJ	0.32		
T	1.38	SF	5.71	TP	5.11		
F	1.38	NF	1.27	FP	5.54		
		NT	0.85	FJ	0.81		
J	0.09						
P	0.09						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

PHARMACY INTERNS

N= 72

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE. I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE G-8

SENSING TYPES WITH THINKING	 WITH FEELING	INTUITIVE TYPES WITH FEELING	 WITH THINKING	
I S T J N= 8 %=11.11 I= 0.98	I S F J N= 10 %=13.89 I= 1.29	I N F J N= 2 %= 2.78 I= 0.60	I N T J N= 2 %= 2.78 I= 0.58	JUDGING INTROVERTS
I S T P N= 4 %= 5.56 I= 1.35	I S F P N= 2 %= 2.78 I= 0.60	I N F P N= 4 %= 5.56 I= 0.79	I N T P N= 6 %= 8.33 I= 1.57	PERCEPTIVES
E S T P N= 0 %= 0.0 I= 0.0	E S F P N= 4 %= 5.56 I= 1.33	E N F P N= 4 %= 5.56 I= 0.73	E N T P N= 4 %= 5.56 I= 1.18	PERCEPTIVES EXTRAVERTS
E S T J N= 8 %=11.11 I= 1.22	E S F J N= 6 %= 8.33 I= 0.96	E N F J N= 6 %= 8.33 I= 1.47	E N T J N= 2 %= 2.78 I= 0.58	JUDGING

	N	%	I
E	34	47.22	1.00
I	38	52.78	1.00
S	42	58.33	1.05
N	30	41.67	0.94
T	34	47.22	1.01
F	38	52.78	0.99
J	44	61.11	1.02
P	28	38.89	0.96
IJ	22	30.56	0.97
IP	16	22.22	1.05
EP	12	16.67	0.87
EJ	22	30.56	1.08
ST	20	27.78	1.02
SF	22	30.56	1.08
NF	16	22.22	0.89
NT	14	19.44	0.99
SJ	32	44.44	1.12
SP	10	13.89	0.89
NP	18	25.00	1.01
NJ	12	16.67	0.84
TJ	20	27.78	0.93
TP	14	19.44	1.15
FP	14	19.44	0.83
FJ	24	33.33	1.12
IN	14	19.44	0.89
EN	16	22.22	0.98
IS	24	33.33	1.08
ES	18	25.00	1.01

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS AND PRACTITIONERS IN PHARMACY AND ALLIED FIELDS
BASE TOTAL N = 2712. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.00	0.77	0.58	0.57
0.53	0.58	0.65	1.34
0.26	0.76	0.65	0.76
0.37	0.01	0.97	0.57

E	0.00	IJ	0.03	SJ	0.66	IN	0.23
I	0.00	IP	0.06	SP	0.18	EN	0.01
		EP	0.32	NP	0.00	IS	0.22
S	0.24	EJ	0.21	NJ	0.47	ES	0.00
N	0.24						
		ST	0.01	TJ	0.17		
T	0.00	SF	0.21	TP	0.33		
F	0.00	NF	0.30	FP	0.65		
		NT	0.00	FJ	0.46		
J	0.06						
P	0.06						

Appendix H

Veterinary Medicine

Table Number	Name of Group Tabulated	Number in Group	Compared to Base
H 1	Veterinary Medicine: Students & Practitioners	142	32,271
H 2	Veterinary Medicine: Students & Practitioners	142	6,738
H 3	Veterinary Medicine: Students	121	142

```
SOURCE OF DATA:                          GROUP                     MBTI TYPE TABLE
                                       TABULATED:            CENTER FOR APPLICATIONS
MARY H. MCCAULLEY, PH.D.                                       OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS            COMPOSITE:  STUDENTS
HEW CONTRACT 231-76-0051           AND PRACTITIONERS IN      LEGEND: % = PERCENT OF
 AMSA FOUNDATION - CAPT             VETERINARY MEDICINE      TOTAL CHOOSING THIS GROUP
                                    AND ALLIED FIELDS        WHO FALL INTO THIS TYPE.
TABLE CREATED 7/31/77                                        I = SELFSELECTION INDEX;
                                                             RATIO OF PERCENT OF TYPE
                                         N=  142             IN GROUP TO % IN SAMPLE.
TABLE H-1

      SENSING TYPES                INTUITIVE TYPES
WITH          WITH          WITH          WITH                            N     %       I
THINKING      FEELING       FEELING       THINKING
--------------------------------------------------------       E        71  50.00   0.95
| I S T J     | I S F J     | I N F J     | I N T J     | J        I        71  50.00   1.05
|             |             |             |             | U
|             |             |             |             | D        S        67  47.18   0.92
| N=  13      | N=  11      | N=   4      | N=   9      | G        N        75  52.82   1.09
|             |             |             |             | I
| %= 9.15     | %= 7.75     | %= 2.82     | %= 6.34     | N I      T        51  35.92   0.99
|             |             |             |             | G N      F        91  64.08   1.01
| I= 1.10     | I= 0.74     | I= 0.53     | I= 1.56     |   T
|             |             |             |             |   R      J        76  53.52   0.90
--------------------------------------------------------  O      P        66  46.48   1.14
| I S T P     | I S F P     | I N F P     | I N T P     |   V
|             |             |             |             |   E      IJ       37  26.06   0.92
|             |             |             |             |   R      IP       34  23.94   1.24
| N=   2      | N=   8      | N=  19      | N=   5      |   T
|             |             |             |             |   S      EP       32  22.54   1.05
| %= 1.41     | %= 5.63     | %=13.38     | %= 3.52     | P        EJ       39  27.46   0.89
|             |             |             |             | E
| I= 0.60     | I= 1.24     | I= 1.53"    | I= 0.95     | R        ST       27  19.01   0.93
|             |             |             |             | C        SF       40  28.17   0.91
-------------------------------------------------------- E
| E S T P     | E S F P     | E N F P     | E N T P     | P        NF       51  35.92   1.10
|             |             |             |             | T        NT       24  16.90   1.06
|             |             |             |             | I
| N=   2      | N=   5      | N=  22      | N=   3      | V        SJ       50  35.21   0.93
|             |             |             |             | E        SP       17  11.97   0.89
| %= 1.41     | %= 3.52     | %=15.49     | %= 2.11     | S E
|             |             |             |             |   X      NP       49  34.51   1.26
| I= 0.73     | I= 0.76     | I= 1.37     | I= 0.58     |   T      NJ       26  18.31   0.86
|             |             |             |             |   R
--------------------------------------------------------  A      TJ       39  27.46   1.11
| E S T J     | E S F J     | E N F J     | E N T J     | J V      TP       12   8.45   0.73
|             |             |             |             | U E
|             |             |             |             | D R      FP       54  38.03   1.30"
| N=  10      | N=  16      | N=   6      | N=   7      | G T      FJ       37  26.06   0.76"
|             |             |             |             | I S
| %= 7.04     | %=11.27     | %= 4.23     | %= 4.93     | N        IN       37  26.06   1.19
|             |             |             |             | G        EN       38  26.76   1.00
| I= 0.91     | I= 1.00     | I= 0.58     | I= 1.08     |
|             |             |             |             |          IS       34  23.94   0.93
--------------------------------------------------------           ES       33  23.24   0.91

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
          "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. >  3.8;
          #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. >  6.6;
          *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
  (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COMPOSITE OF STUDENTS & PRACTITIONERS IN ALL HEALTH AND HEALTH RELATED FIELDS.
   BASE TOTAL N = 32271. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER             E    0.32    IJ    0.35    SJ    0.45    IN    1.48
                                     I    0.32    IP    1.94    SP    0.26    EN    0.00
  0.12     1.17     0.15     1.89                 EP    0.10    NP    3.64    IS    0.25
                                     S    1.00    EJ    0.79    NJ    0.73    ES    0.41
  0.49     0.38     3.84     0.79    N    1.00
                                                  ST    0.16    TJ    0.57
  0.66     0.46     2.47     0.32    T    0.01    SF    0.54    TP    1.36
                                     F    0.01    NF    0.69    FP    5.32
  0.10     0.00     1.94     0.04                 NT    0.09    FJ    4.44
                                     J    1.89
                                     P    1.89
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

COMPOSITE: STUDENTS
AND PRACTITIONERS IN
VETERINARY MEDICINE
AND ALLIED FIELDS

N= 142

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX;
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

TABLE H-2

SENSING TYPES WITH THINKING	 WITH FEELING	INTUITIVE TYPES WITH FEELING	 WITH THINKING	
I S T J N= 13 %= 9.15 I= 1.49	I S F J N= 11 %= 7.75 I= 1.06	I N F J N= 4 %= 2.82 I= 0.93	I N T J N= 9 %= 6.34 I= 2.77#	JUDGING INTROVERTS
I S T P N= 2 %= 1.41 I= 0.36	I S F P N= 8 %= 5.63 I= 0.73	I N F P N= 19 %=13.38 I= 1.43	I N T P N= 5 %= 3.52 I= 0.88	PERCEPTIVES
E S T P N= 2 %= 1.41 I= 0.32	E S F P N= 5 %= 3.52 I= 0.36"	E N F P N= 22 %=15.49 I= 1.20	E N T P N= 3 %= 2.11 I= 0.47	PERCEPTIVES EXTRAVERTS
E S T J N= 10 %= 7.04 I= 1.00	E S F J N= 16 %=11.27 I= 1.05	E N F J N= 6 %= 4.23 I= 1.01	E N T J N= 7 %= 4.93 I= 1.79	JUDGING EXTRAVERTS

	N	%	I
E	71	50.00	0.89
I	71	50.00	1.14
S	67	47.18	0.83"
N	75	52.82	1.23"
T	51	35.92	1.02
F	91	64.08	0.99
J	76	53.52	1.23"
P	66	46.48	0.82"
IJ	37	26.06	1.39"
IP	34	23.94	0.96
EP	32	22.54	0.72"
EJ	39	27.46	1.11
ST	27	19.01	0.88
SF	40	28.17	0.79
NF	51	35.92	1.22
NT	24	16.90	1.24
SJ	50	35.21	1.13
SP	17	11.97	0.47*
NP	49	34.51	1.12
NJ	26	18.31	1.50"
TJ	39	27.46	1.51#
TP	12	8.45	0.50#
FP	54	38.03	0.96
FJ	37	26.06	1.03
IN	37	26.06	1.40"
EN	38	26.76	1.10
IS	34	23.94	0.95
ES	33	23.24	0.73"

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
BASE TOTAL N = 6738. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

2.17	0.04	0.97	9.87
0.17	0.85	2.64	0.81
0.09	0.01	0.84	0.21
0.00	0.04	0.00	2.40

E	2.20	IJ	4.81	SJ	1.00	IN	4.97
I	2.20	IP	0.08	SP	13.81	EN	0.43
		EP	5.20	NP	0.90	IS	0.10
S	5.42	EJ	0.55	NJ	4.72	ES	4.79
N	5.42						
		ST	0.51	TJ	7.87		
T	0.04	SF	3.25	TP	7.07		
F	0.04	NF	2.81	FP	0.15		
		NT	1.28	FJ	0.04		
J	5.66						
P	5.66						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE H-3

GROUP
TABULATED:

COMPOSITE OF
STUDENTS IN
VETERINARY MEDICINE
AND ALLIED FIELDS

N= 121

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX:
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 11 %= 9.09 I= 0.99	I S F J N= 11 %= 9.09 I= 1.17	I N F J N= 4 %= 3.31 I= 1.17	I N T J N= 6 %= 4.96 I= 0.78	JUDGING	INTROVERTS
I S T P N= 2 %= 1.65 I= 1.17	I S F P N= 6 %= 4.96 I= 0.88	I N F P N= 14 %=11.57 I= 0.86	I N T P N= 5 %= 4.13 I= 1.17	PERCEPTIVES	
E S T P N= 2 %= 1.65 I= 1.17	E S F P N= 4 %= 3.31 I= 0.94	E N F P N= 18 %=14.88 I= 0.96	E N T P N= 3 %= 2.48 I= 1.17		EXTRAVERTS
E S T J N= 8 %= 6.61 I= 0.94	E S F J N= 14 %=11.57 I= 1.03	E N F J N= 6 %= 4.96 I= 1.17	E N T J N= 7 %= 5.79 I= 1.17	JUDGING	

	N	%	I
E	62	51.24	1.02
I	59	48.76	0.98
S	58	47.93	1.02
N	63	52.07	0.99
T	44	36.36	1.01
F	77	63.64	0.99
J	67	55.37	1.03
P	54	44.63	0.96
IJ	32	26.45	1.01
IP	27	22.31	0.93
EP	27	22.31	0.99
EJ	35	28.93	1.05
ST	23	19.01	1.00
SF	35	28.93	1.03
NF	42	34.71	0.97
NT	21	17.36	1.03
SJ	44	36.36	1.03
SP	14	11.57	0.97
NP	40	33.06	0.96
NJ	23	19.01	1.04
TJ	32	26.45	0.96
TP	12	9.92	1.17
FP	42	34.71	0.91"
FJ	35	28.93	1.11
IN	29	23.97	0.92
EN	34	28.10	1.05
IS	30	24.79	1.04
ES	28	23.14	1.00

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS AND PRACTITIONERS IN VETERINARY MEDICINE AND ALLIED FIELD
BASE TOTAL N = 142. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

1.00	0.22	0.63	0.13
1.00	0.60	0.16	0.60
1.00	1.00	0.74	1.00
0.64	1.00	0.59	0.38

E	0.50	IJ	1.00	SJ	0.48	IN	1.85
I	0.50	IP	1.19	SP	1.00	EN	0.44
		EP	1.00	NP	0.76	IS	0.60
S	0.19	EJ	0.44	NJ	0.77	ES	1.00
N	0.19						
		ST	1.00	TJ	0.43		
T	0.07	SF	0.80	TP	0.21		
F	0.07	NF	0.52	FP	3.82		
		NT	0.77	FJ	0.10		
J	1.13						
P	1.13						

Appendix I

Clinical Laboratory Services

Table Number	Name of Group Tabulated	Number in Group	Compared to Base
I 1	All Students and Practitioners	1,888	32,271
I 2	Students in Clinical Laboratory Services	705	6,738
I 3	Medical Technology Students with Sex Known	422	705
I 4	Medical Technology Students: Males	81	3,907
I 5	Medical Technology Students: Females	341	2,831
I 6	Practitioners	1,183	1,888
I 7	Medical Technologists	973	1,183
I 8	Medical Technologists for Whom Sex is Known	601	973
I 9	Medical Technologists: Males	88	601
I 10	Medical Technologists: Females	513	601
I 11	Laboratory Technologists	167	1,183
I 12	Laboratory Technologists: Males	88	167
I 13	Laboratory Technologists: Females	79	167
I 14	Clinical Laboratory Assistants	31	1,183

```
SOURCE OF DATA:                        GROUP                 MBTI TYPE TABLE
                                     TABULATED:           CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                  OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS           COMPOSITE:  STUDENTS
 HEW CONTRACT 231-76-0051          AND PRACTITIONERS IN   LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT           CLINICAL LABORATORY    TOTAL CHOOSING THIS GROUP
                                        SERVICES          WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                    I = SELFSELECTION INDEX:
                                                          RATIO OF PERCENT OF TYPE
                                        N= 1888           IN GROUP TO % IN SAMPLE.
 TABLE I-1

      SENSING TYPES               INTUITIVE TYPES
 WITH          WITH          WITH          WITH                          N      %       I
 THINKING      FEELING       FEELING       THINKING
--------------------------------------------------------       E      877  46.45   0.89*
| I S T J     | I S F J     | I N F J     | I N T J     |  J     I     1011  53.55   1.12*
|             |             |             |             |  U
|             |             |             |             |  D     S     1131  59.90   1.17*
| N= 209      | N= 270      | N=   88     | N=   86     |  G     N      757  40.10   0.82*
|             |             |             |             |  I
| %=11.07     | %=14.30     | %= 4.66     | %= 4.56     |  N I   T      777  41.15   1.13*
|             |             |             |             |  G N   F     1111  58.85   0.92*
| I= 1.32*    | I= 1.36*    | I= 0.87     | I= 1.12     |    T
|             |             |             |             |    R   J     1223  64.78   1.09*
--------------------------------------------------------     O   P      665  35.22   0.86*
| I S T P     | I S F P     | I N F P     | I N T P     |    V
|             |             |             |             |    E   IJ     653  34.59   1.22*
|             |             |             |             |    R   IP     358  18.96   0.98
| N=   44     | N= 107      | N= 145      | N=   62     |    T
|             |             |             |             |    S   EP     307  16.26   0.76*
| %= 2.33     | %= 5.67     | %= 7.68     | %= 3.28     |  P     EJ     570  30.19   0.98
|             |             |             |             |  E
| I= 0.99     | I= 1.24"    | I= 0.88     | I= 0.89     |  R     ST     484  25.64   1.26*
|             |             |             |             |  C     SF     647  34.27   1.11#
--------------------------------------------------------   E
| E S T P     | E S F P     | E N F P     | E N T P     |  P     NF     464  24.58   0.75*
|             |             |             |             |  T     NT     293  15.52   0.97
|             |             |             |             |  I
| N=   40     | N=   80     | N= 137      | N=   50     |  V     SJ     860  45.55   1.20*
|             |             |             |             |  E     SP     271  14.35   1.07
| %= 2.12     | %= 4.24     | %= 7.26     | %= 2.65     |  S E
|             |             |             |             |    X   NP     394  20.87   0.76*
| I= 1.10     | I= 0.92     | I= 0.64*    | I= 0.73"    |    T   NJ     363  19.23   0.90"
|             |             |             |             |    R
--------------------------------------------------------     A   TJ     581  30.77   1.24*
| E S T J     | E S F J     | E N F J     | E N T J     |  J V   TP     196  10.38   0.90
|             |             |             |             |  U E
|             |             |             |             |  D R   FP     469  24.84   0.85*
| N= 191      | N= 190      | N=   94     | N=   95     |  G T   FJ     642  34.00   0.99
|             |             |             |             |  I S
| %=10.12     | %=10.06     | %= 4.98     | %= 5.03     |  N     IN     381  20.18   0.92
|             |             |             |             |  G     EN     376  19.92   0.74*
| I= 1.31*    | I= 0.89     | I= 0.69*    | I= 1.10     |
|             |             |             |             |        IS     630  33.37   1.29*
--------------------------------------------------------       ES     501  26.54   1.04

    NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
         #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
         *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
  _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

    BASE POPULATION USED IN CALCULATING SELECTION RATIO:
    COMPOSITE OF STUDENTS & PRACTITIONERS IN ALL HEALTH AND HEALTH RELATED FIELDS.
    BASE TOTAL N = 32271. SAMPLE AND BASE ARE DEPENDENT.

  * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER               E   28.15    IJ  39.21    SJ  49.36    IN   3.27
                                       I   28.15    IP   0.19    SP   1.45    EN  48.15
 19.27     30.45     1.87     1.25                  EP  32.33    NP  42.77    IS  60.33
                                       S   58.41    EJ   0.47    NJ   4.88    ES   0.94
  0.00      5.63     2.85     0.95     N   58.41
                                                    ST  34.39    TJ  39.11
  0.43      0.65    32.98     5.45     T   20.23    SF   9.94    TP   2.80
                                       F   20.23    NF  59.64    FP  18.75
 15.80      3.14    15.40     0.92                  NT   0.29    FJ   0.17
                                       J   25.98
                                       P   25.98
```

```
SOURCE OF DATA:                   GROUP                    MBTI TYPE TABLE
                                TABULATED:              CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS       COMPOSITE OF
 HEW CONTRACT 231-76-0051      STUDENTS IN              LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT    CLINICAL LABORATORY         TOTAL CHOOSING THIS GROUP
                                 SERVICES               WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                  I = SELFSELECTION INDEX:
                                                        RATIO OF PERCENT OF TYPE
                                 N=  705                IN GROUP TO % IN SAMPLE.

 TABLE I-2

        SENSING TYPES              INTUITIVE TYPES
 WITH         WITH          WITH          WITH                          N     %        I
 THINKING     FEELING       FEELING       THINKING
----------------------------------------------------                E  347  49.22   0.88*
| I S T J   | I S F J    | I N F J    | I N T J    | J              I  358  50.78   1.16*
|           |            |            |            | U
|           |            |            |            | D              S  420  59.57   1.05
| N=  55    | N= 108     | N=  31     | N=  35     | G              N  285  40.43   0.94
|           |            |            |            | I
| %= 7.80   | %=15.32    | %= 4.40    | %= 4.96    | N  I           T  276  39.15   1.12"
|           |            |            |            | G  N           F  429  60.85   0.94"
| I= 1.27   | I= 2.09*   | I= 1.46"   | I= 2.17*   |    T
|           |            |            |            |    R           J  459  65.11   1.50*
----------------------------------------------------    O           P  246  34.89   0.62*
| I S T P   | I S F P    | I N F P    | I N T P    |    V
|           |            |            |            |    E          IJ  229  32.48   1.73*
|           |            |            |            |    R          IP  129  18.30   0.73*
| N=  15    | N=  47     | N=  44     | N=  23     |    T
|           |            |            |            |    S          EP  117  16.60   0.53*
| %= 2.13   | %= 6.67    | %= 6.24    | %= 3.26    | P              EJ  230  32.62   1.32*
|           |            |            |            | E
| I= 0.55"  | I= 0.86    | I= 0.67#   | I= 0.81    | R              ST  154  21.84   1.02
|           |            |            |            | C              SF  266  37.73   1.06
----------------------------------------------------  E
| E S T P   | E S F P    | E N F P    | E N T P    | P              NF  163  23.12   0.79*
|           |            |            |            | T              NT  122  17.30   1.27#
|           |            |            |            | I
| N=  12    | N=  33     | N=  54     | N=  18     | V              SJ  313  44.40   1.42*
|           |            |            |            | E              SP  107  15.18   0.59*
| %= 1.70   | %= 4.68    | %= 7.66    | %= 2.55    | S  E
|           |            |            |            |    X          NP  139  19.72   0.64*
| I= 0.39*  | I= 0.48*   | I= 0.59*   | I= 0.56"   |    T          NJ  146  20.71   1.69*
|           |            |            |            |    R
----------------------------------------------------    A          TJ  208  29.50   1.62*
| E S T J   | E S F J    | E N F J    | E N T J    | J  V          TP   68   9.65   0.57*
|           |            |            |            | U  E
|           |            |            |            | D  R          FP  178  25.25   0.64*
| N=  72    | N=  78     | N=  34     | N=  46     | G  T          FJ  251  35.60   1.41*
|           |            |            |            | I  S
| %=10.21   | %=11.06    | %= 4.82    | %= 6.52    | N              IN  133  18.87   1.01
|           |            |            |            | G              EN  152  21.56   0.88
| I= 1.45#  | I= 1.03    | I= 1.15    | I= 2.36*   |
|           |            |            |            |                IS  225  31.91   1.27*
----------------------------------------------------                ES  195  27.66   0.87"

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
   BASE TOTAL N =  6738. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

       TYPE TABLE ORDER            E  12.77   IJ  74.75   SJ  50.12   IN   0.02
                                   I  12.77   IP  15.46   SP  37.93   EN   2.75
  2.97   54.78    4.02   18.51                EP  67.46   NP  37.49   IS  15.60
                                   S   1.78   EJ  20.89   NJ  40.32   ES   5.27
  5.52    1.00    7.49    0.97     N   1.78
                                              ST   0.05   TJ  51.97
 11.74   19.06   16.04    6.06     T   4.57   SF   1.42   TP  24.50
                                   F   4.57   NF  12.38   FP  55.85
  9.38    0.07    0.64   29.95                NT   7.26   FJ  35.16
                                   J 119.97
                                   P 119.97
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

MEDICAL TECHNOLOGY
STUDENTS
FOR WHOM
SEX IS KNOWN

N= 422

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE I-3

	SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING
INTROVERTS JUDGING	I S T J N= 34 %= 8.06 I= 1.03	I S F J N= 61 %=14.45 I= 0.94	I N F J N= 14 %= 3.32 I= 0.75	I N T J N= 20 %= 4.74 I= 0.95
INTROVERTS PERCEPTIVES	I S T P N= 6 %= 1.42 I= 0.67	I S F P N= 37 %= 8.77 I= 1.32#	I N F P N= 30 %= 7.11 I= 1.14	I N T P N= 15 %= 3.55 I= 1.09
EXTRAVERTS PERCEPTIVES	E S T P N= 10 %= 2.37 I= 1.39	E S F P N= 19 %= 4.50 I= 0.96	E N F P N= 30 %= 7.11 I= 0.93	E N T P N= 12 %= 2.84 I= 1.11
EXTRAVERTS JUDGING	E S T J N= 38 %= 9.00 I= 0.88	E S F J N= 46 %=10.90 I= 0.99	E N F J N= 14 %= 3.32 I= 0.69"	E N T J N= 36 %= 8.53 I= 1.31#

	N	%	I
E	205	48.58	0.99
I	217	51.42	1.01
S	251	59.48	1.00
N	171	40.52	1.00
T	171	40.52	1.04
F	251	59.48	0.98
J	263	62.32	0.96
P	159	37.68	1.08
IJ	129	30.57	0.94
IP	88	20.85	1.14"
EP	71	16.82	1.01
EJ	134	31.75	0.97
ST	88	20.85	0.95
SF	163	38.63	1.02
NF	88	20.85	0.90
NT	83	19.67	1.14"
SJ	179	42.42	0.96
SP	72	17.06	1.12
NP	87	20.62	1.05
NJ	84	19.91	0.96
TJ	128	30.33	1.03
TP	43	10.19	1.06
FP	116	27.49	1.09
FJ	135	31.99	0.90"
IN	79	18.72	0.99
EN	92	21.80	1.01
IS	138	32.70	1.02
ES	113	26.78	0.97

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
STUDENTS IN MEDICAL TECHNOLOGY
BASE TOTAL N = 705. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.10	0.61	2.91	0.11
2.52	7.46	1.35	0.28
0.14	0.08	0.45	0.36
1.67	0.03	5.19	6.94

E	0.17	IJ	1.76	SJ	1.67	IN	0.01
I	0.17	IP	4.59	SP	2.90	EN	0.04
		EP	0.04	NP	0.54	IS	0.30
S	0.00	EJ	0.36	NJ	0.41	ES	0.41
N	0.00						
		ST	0.60	TJ	0.35		
T	0.83	SF	0.36	TP	0.36		
F	0.83	NF	3.04	FP	2.79		
		NT	4.10	FJ	5.91		
J	3.59						
P	3.59						

```
SOURCE OF DATA:                      GROUP                  MBTI TYPE TABLE
                                   TABULATED:          CENTER FOR APPLICATIONS
MARY H. MCCAULLEY, PH.D.                                 OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS         MEDICAL TECHNOLOGY
HEW CONTRACT 231-76-0051             STUDENTS           LEGEND: % = PERCENT OF
 AMSA FOUNDATION - CAPT               MALES             TOTAL CHOOSING THIS GROUP
                                                        WHO FALL INTO THIS TYPE.
TABLE CREATED 7/31/77                                   I = SELFSELECTION INDEX:
                                                        RATIO OF PERCENT OF TYPE
                                     N=   81            IN GROUP TO % IN SAMPLE.
TABLE I-4

      SENSING TYPES              INTUITIVE TYPES
WITH           WITH           WITH           WITH
THINKING       FEELING        FEELING        THINKING
-----------------------------------------------------------
| I S T J      | I S F J      | I N F J      | I N T J      |
|              |              |              |              |
| N=   6       | N=   7       | N=   2       | N=   6       |
| %= 7.41      | %= 8.64      | %= 2.47      | %= 7.41      |
| I= 0.91      | I= 1.35      | I= 0.78      | I= 2.32"     |
-----------------------------------------------------------
| I S T P      | I S F P      | I N F P      | I N T P      |
|              |              |              |              |
| N=   0       | N=   4       | N=   3       | N=   4       |
| %= 0.0       | %= 4.94      | %= 3.70      | %= 4.94      |
| I= 0.0 "     | I= 0.64      | I= 0.43      | I= 0.96      |
-----------------------------------------------------------
| E S T P      | E S F P      | E N F P      | E N T P      |
|              |              |              |              |
| N=   1       | N=   2       | N=   6       | N=   3       |
| %= 1.23      | %= 2.47      | %= 7.41      | %= 3.70      |
| I= 0.22      | I= 0.31      | I= 0.78      | I= 0.68      |
-----------------------------------------------------------
| E S T J      | E S F J      | E N F J      | E N T J      |
|              |              |              |              |
| N=  14       | N=  12       | N=   2       | N=   9       |
| %=17.28      | %=14.81      | %= 2.47      | %=11.11      |
| I= 1.89"     | I= 1.87"     | I= 0.76      | I= 3.22*     |
-----------------------------------------------------------

                  N     %      I
         E       49  60.49   1.16
J        I       32  39.51   0.83
U
D        S       46  56.79   0.98
G        N       35  43.21   1.03
I
N I      T       43  53.09   1.17
G N      F       38  46.91   0.86
  T
  R      J       58  71.60   1.60*
  O      P       23  28.40   0.51*
  V
  E      IJ      21  25.93   1.24
  R      IP      11  13.58   0.51#
  T
  S      EP      12  14.81   0.52#
P        EJ      37  45.68   1.92*
E
R        ST      21  25.93   0.92
C        SF      25  30.86   1.03
E
P        NF      13  16.05   0.65
T        NT      22  27.16   1.57"
I
V        SJ      39  48.15   1.52#
E        SP       7   8.64   0.33*
S E
  X      NP      16  19.75   0.69
  T      NJ      19  23.46   1.79#
  R
  A      TJ      35  43.21   1.81*
J V      TP       8   9.88   0.46"
U E
D R      FP      15  18.52   0.55#
G T      FJ      23  28.40   1.37
I S
N        IN      15  18.52   0.92
G        EN      20  24.69   1.14

         IS      17  20.99   0.76
         ES      29  35.80   1.17

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   MALE HIGH SCHOOL JUNIORS AND SENIORS ON THE CAPT DATA BANK
   BASE TOTAL N =  3907. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

       TYPE TABLE ORDER             E    2.14    IJ   1.20    SJ   9.98    IN   0.13
                                    I    2.14    IP   7.11    SP  13.16    EN   0.41
 0.06     0.66     0.77     4.42                 EP   7.35    NP   3.16    IS   1.74
                                    S    0.06    EJ  20.74    NJ   7.42    ES   1.03
 0.04     0.41     0.15     0.99    N    0.06
                                                 ST   0.20    TJ  16.02
 0.13     0.09     0.42     0.62    T    1.87    SF   0.03    TP   6.40
                                    F    1.87    NF   3.14    FP   8.33
 6.24     5.C6     0.77    13.36                 NT   5.41    FJ   2.80
                                    J   23.21
                                    P   23.21
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

MEDICAL TECHNOLOGY
STUDENTS
FEMALES

N= 341

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX;
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

TABLE I-5

SENSING TYPES		INTUITIVE TYPES			
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING		
I S T J N= 28 %= 8.21 I= 2.42*	I S F J N= 54 %=15.84 I= 1.84*	I N F J N= 12 %= 3.52 I= 1.26	I N T J N= 14 %= 4.11 I= 4.01*	JUDGING	INTROVERTS
I S T P N= 6 %= 1.76 I= 0.96	I S F P N= 33 %= 9.68 I= 1.25	I N F P N= 27 %= 7.92 I= 0.77	I N T P N= 11 %= 3.23 I= 1.29	PERCEPTIVES	
E S T P N= 9 %= 2.64 I= 0.92	E S F P N= 17 %= 4.99 I= 0.41*	E N F P N= 24 %= 7.04 I= 0.40*	E N T P N= 9 %= 2.64 I= 0.81		EXTRAVERTS
E S T J N= 24 %= 7.04 I= 1.69"	E S F J N= 34 %= 9.97 I= 0.68"	E N F J N= 12 %= 3.52 I= 0.64	E N T J N= 27 %= 7.92 I= 4.40*	JUDGING	

	N	%	I
E	156	45.75	0.74*
I	185	54.25	1.42*
S	205	60.12	1.09
N	136	39.88	0.89
T	128	37.54	1.80*
F	213	62.46	0.79*
J	205	60.12	1.44*
P	136	39.88	0.69*
IJ	108	31.67	2.00*
IP	77	22.58	1.01
FP	59	17.30	0.49*
EJ	97	28.45	1.09
ST	67	19.65	1.60*
SF	138	40.47	0.94
NF	75	21.99	0.61*
NT	61	17.89	2.08*
SJ	140	41.06	1.33*
SP	65	19.06	0.78"
NP	71	20.82	0.62*
NJ	65	19.06	1.72*
TJ	93	27.27	2.63*
TP	35	10.26	0.98
FP	101	29.62	0.62*
FJ	112	32.84	1.04
IN	64	19.77	1.13
EN	72	21.11	0.75#
IS	121	35.48	1.64*
ES	84	24.63	0.73*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
# IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
FEMALE HIGH SCHOOL JUNIORS AND SENIORS ON THE CAPT DATA BANK
BASE TOTAL N = 2831. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR _FISHER'S EXACT PROBABILITY_ * * * *

TYPE TABLE ORDER

18.82	18.62	0.58	21.61
0.01	1.51	1.98	0.62
0.05	15.15	24.27	0.37
5.86	5.43	2.33	47.47

E	32.31	IJ	52.87	SJ	14.73	IN	0.95
I	32.31	IP	0.00	SP	6.97	EN	7.30
		EP	45.83	NP	22.73	IS	32.93
S	2.84	EJ	0.89	NJ	18.38	ES	11.36
N	2.84						
		ST	14.65	TJ	81.03		
T	48.45	SF	0.83	TP	0.01		
F	48.45	NF	26.77	FP	39.88		
		NT	30.41	FJ	0.25		
J	41.05						
P	41.05						

```
SOURCE OF DATA:                      GROUP                   MBTI TYPE TABLE
                                   TABULATED:             CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                  OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS          COMPOSITE OF
 NEW CONTRACT 231-76-0051       PRACTITIONERS IN          LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT      CLINICAL LABORATORY         TOTAL CHOOSING THIS GROUP
                                   SERVICES               WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                    I = SELFSELECTION INDEX:
                                                          RATIO OF PERCENT OF TYPE
                                   N= 1183                IN GROUP TO % IN SAMPLE.

 TABLE I-6

     SENSING TYPES              INTUITIVE TYPES
WITH          WITH          WITH          WITH
THINKING      FEELING       FEELING       THINKING                     N      %      I
---------------------------------------------------------       E    530  44.80   0.96
| I S T J     | I S F J     | I N F J     | I N T J     |  J    I    653  55.20   1.03
|             |             |             |             |  U
|             |             |             |             |  D    S    711  60.10   1.00
| N= 154      | N= 162      | N=  57      | N=  51      |  G    N    472  39.90   1.00
|             |             |             |             |  I
| %=13.02     | %=13.69     | %= 4.82     | %= 4.31     |  N I  T    501  42.35   1.03
|             |             |             |             |  G N  F    682  57.65   0.98
| I= 1.18*    | I= 0.96     | I= 1.03     | I= 0.95     |    T
|             |             |             |             |    R  J    764  64.58   1.00
---------------------------------------------------------    O  P    419  35.42   1.01
| I S T P     | I S F P     | I N F P     | I N T P     |    V
|             |             |             |             |    E  IJ   424  35.84   1.04
|             |             |             |             |    R  IP   229  19.36   1.02
| N=  29      | N=  60      | N= 101      | N=  39      |    T
|             |             |             |             |    S  EP   190  16.06   0.99
| %= 2.45     | %= 5.07     | %= 8.54     | %= 3.30     |  P    EJ   340  28.74   0.95
|             |             |             |             |  E
| I= 1.05     | I= 0.89     | I= 1.11     | I= 1.00     |  R    ST   330  27.90   1.09#
|             |             |             |             |  C    SF   381  32.21   0.94"
---------------------------------------------------------  E
| E S T P     | E S F P     | E N F P     | E N T P     |  P    NF   301  25.44   1.04
|             |             |             |             |  T    NT   171  14.45   0.93
|             |             |             |             |  I
| N=  28      | N=  47      | N=  83      | N=  32      |  V    SJ   547  46.24   1.02
|             |             |             |             |  E    SP   164  13.86   0.97
| %= 2.37     | %= 3.97     | %= 7.02     | %= 2.70     |  S E
|             |             |             |             |    X  NP   255  21.56   1.03
| I= 1.12     | I= 0.94     | I= 0.97     | I= 1.02     |    T  NJ   217  18.34   0.95
|             |             |             |             |    R
---------------------------------------------------------    A  TJ   373  31.53   1.02
| E S T J     | E S F J     | E N F J     | E N T J     |  J V  TP   128  10.82   1.04
|             |             |             |             |  U E
|             |             |             |             |  D R  FP   291  24.60   0.99
| N= 119      | N= 112      | N=  60      | N=  49      |  G T  FJ   391  33.05   0.97
|             |             |             |             |  I S
| %=10.06     | %= 9.47     | %= 5.07     | %= 4.14     |  N    IN   248  20.96   1.04
|             |             |             |             |  G    EN   224  18.93   0.95
| I= 0.99     | I= 0.94     | I= 1.02     | I= 0.82"    |
|             |             |             |             |       IS   405  34.23   1.03
---------------------------------------------------------       ES   306  25.87   0.97

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COMPOSITE OF STUDENTS AND PRACTITIONERS IN CLINICAL LABORATORY SERVICES
   BASE TOTAL N =  1888. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

         TYPE TABLE ORDER           E    3.47    IJ   2.20    SJ   0.60    IN   1.21
                                    I    3.47    IP   0.32    SP   0.62    EN   1.91
 12.21    0.95    0.18    0.43                   EP   0.09    NP   0.90    IS   1.07
                                    S    0.05    EJ   3.16    NJ   1.59    ES   0.73
  0.20    2.10    3.29    0.00      N    0.05
                                                 ST   8.48    TJ   0.85
  0.94    0.55    0.27    0.04      T    1.87    SF   5.98    TP   0.66
                                    F    1.87    NF   1.29    FP   0.10
  0.01    1.24    0.06    5.25                   NT   2.74    FJ   1.28
                                    J    0.05
                                    P    0.05
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

MEDICAL
TECHNOLOGISTS

N= 973

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE. I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE I-7

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 129 %=13.26 I= 1.02	I S F J N= 141 %=14.49 I= 1.06	I N F J N= 50 %= 5.14 I= 1.07	I N T J N= 41 %= 4.21 I= 0.98	JUDGING / INTROVERTS
I S T P N= 27 %= 2.77 I= 1.13	I S F P N= 50 %= 5.14 I= 1.01	I N F P N= 71 %= 7.30 I= 0.85*	I N T P N= 33 %= 3.39 I= 1.03	PERCEPTIVES / INTROVERTS
E S T P N= 19 %= 1.95 I= 0.83"	E S F P N= 35 %= 3.60 I= 0.91	E N F P N= 64 %= 6.58 I= 0.94	E N T P N= 25 %= 2.57 I= 0.95	PERCEPTIVES / EXTRAVERTS
E S T J N= 97 %= 9.97 I= 0.99	E S F J N= 97 %= 9.97 I= 1.05	E N F J N= 51 %= 5.24 I= 1.03	E N T J N= 43 %= 4.42 I= 1.07	JUDGING / EXTRAVERTS

	N	%	I
E	431	44.30	0.99
I	542	55.70	1.01
S	595	61.15	1.02
N	378	38.85	0.97
T	414	42.55	1.00
F	559	57.45	1.00
J	649	66.70	1.03#
P	324	33.30	0.94#
IJ	361	37.10	1.04
IP	181	18.60	0.96
EP	143	14.70	0.92#
EJ	288	29.60	1.03
ST	272	27.95	1.00
SF	323	33.20	1.03
NF	236	24.25	0.95"
NT	142	14.59	1.01
SJ	464	47.69	1.03"
SP	131	13.46	0.97
NP	193	19.84	0.92#
NJ	185	19.01	1.04
TJ	310	31.86	1.01
TP	104	10.69	0.99
FP	220	22.61	0.92*
FJ	339	34.84	1.05#
IN	195	20.04	0.96
EN	183	18.81	0.99
IS	347	35.66	1.04"
ES	248	25.49	0.99

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN CLINICAL LABORATORY SERVICES
BASE TOTAL N = 1183. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.28	2.55	1.23	0.13
0.14	0.05	10.80	0.15
4.07	2.03	1.62	0.38
0.05	1.61	0.33	1.06

E	0.57	IJ	3.79	SJ	4.63	IN	2.82
I	0.57	IP	2.00	SP	0.73	EN	0.06
		EP	7.56	NP	9.59	IS	4.96
S	2.52	EJ	1.97	NJ	1.64	ES	0.41
N	2.52						
		ST	0.01	TJ	0.28		
T	0.09	SF	2.46	TP	0.10		
F	0.09	NF	4.08	FP	11.68		
		NT	0.09	FJ	7.93		
J	10.76						
P	10.76						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

MEDICAL
TECHNOLOGISTS
FOR WHOM
SEX IS KNOWN

N= 601

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX;
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

TABLE I-8

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 79 %=13.14 I= 0.99	I S F J N= 100 %=16.64 I= 1.15"	I N F J N= 34 %= 5.66 I= 1.10	I N T J N= 24 %= 3.99 I= 0.95	JUDGING / INTROVERTS
I S T P N= 10 %= 1.66 I= 0.60#	I S F P N= 33 %= 5.49 I= 1.07	I N F P N= 39 %= 6.49 I= 0.89	I N T P N= 23 %= 3.83 I= 1.13	PERCEPTIVES / INTROVERTS
E S T P N= 11 %= 1.83 I= 0.94	E S F P N= 20 %= 3.33 I= 0.93	E N F P N= 36 %= 5.99 I= 0.91	E N T P N= 15 %= 2.50 I= 0.97	PERCEPTIVES / EXTRAVERTS
E S T J N= 60 %= 9.98 I= 1.00	E S F J N= 59 %= 9.82 I= 0.98	E N F J N= 30 %= 4.99 I= 0.95	E N T J N= 28 %= 4.66 I= 1.05	JUDGING / EXTRAVERTS

	N	%	I
E	259	43.09	0.97
I	342	56.91	1.02
S	372	61.90	1.01
N	229	38.10	0.98
T	250	41.60	0.98
F	351	58.40	1.02
J	414	68.89	1.03
P	187	31.11	0.93
IJ	237	39.43	1.06
IP	105	17.47	0.94
EP	82	13.64	0.93
EJ	177	29.45	0.99
ST	160	26.62	0.95
SF	212	35.27	1.06
NF	139	23.13	0.95
NT	90	14.98	1.03
SJ	298	49.58	1.04
SP	74	12.31	0.91
NP	113	18.80	0.95
NJ	116	19.30	1.02
TJ	191	31.78	1.00
TP	59	9.82	0.92
FP	128	21.30	0.94
FJ	223	37.10	1.06
IN	120	19.97	1.00
EN	109	18.14	0.96
IS	222	36.94	1.04
ES	150	24.96	0.98

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
MEDICAL TECHNOLOGISTS
BASE TOTAL N = 973. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.02	5.65	0.87	0.19
7.19	0.40	1.52	0.91
0.12	0.33	0.88	0.03
0.00	0.04	0.20	0.21

E	0.92	IJ	3.66	SJ	2.27	IN	0.01
I	0.92	IP	1.33	SP	1.79	EN	0.46
		EP	1.39	NP	1.06	IS	1.11
S	0.37	EJ	0.02	NJ	0.08	ES	0.23
N	0.37						
		ST	1.39	TJ	0.00		
T	0.58	SF	3.06	TP	1.25		
F	0.58	NF	1.09	FP	1.55		
		NT	0.18	FJ	3.55		
J	3.38						
P	3.38						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

MEDICAL
TECHNOLOGISTS
MALES

N= 88

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE I-9

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 7 %= 7.95 I= 0.61	I S F J N= 10 %=11.36 I= 0.68	I N F J N= 1 %= 1.14 I= 0.20	I N T J N= 4 %= 4.55 I= 1.14	JUDGING INTROVERTS
I S T P N= 0 %= 0.0 I= 0.0	I S F P N= 2 %= 2.27 I= 0.41	I N F P N= 5 %= 5.68 I= 0.88	I N T P N= 6 %= 6.82 I= 1.78	PERCEPTIVES INTROVERTS
E S T P N= 2 %= 2.27 I= 1.24	E S F P N= 2 %= 2.27 I= 0.68	E N F P N= 5 %= 5.68 I= 0.95	E N T P N= 1 %= 1.14 I= 0.46	PERCEPTIVES EXTRAVERTS
E S T J N= 21 %=23.86 I= 2.39*	E S F J N= 13 %=14.77 I= 1.50	E N F J N= 4 %= 4.55 I= 0.91	E N T J N= 5 %= 5.68 I= 1.22	JUDGING EXTRAVERTS

	N	%	I
E	53	60.23	1.40*
I	35	39.77	0.70*
S	57	64.77	1.05
N	31	35.23	0.92
T	46	52.27	1.26"
F	42	47.73	0.82"
J	65	73.86	1.07
P	23	26.14	0.84
IJ	22	25.00	0.63#
IP	13	14.77	0.85
EP	10	11.36	0.83
EJ	43	48.86	1.66*
ST	30	34.09	1.28
SF	27	30.68	0.87
NF	15	17.05	0.74
NT	16	18.18	1.21
SJ	51	57.95	1.17
SP	6	6.82	0.55
NP	17	19.32	1.03
NJ	14	15.91	0.82
TJ	37	42.05	1.32"
TP	9	10.23	1.04
FP	14	15.91	0.75
FJ	28	31.82	0.86
IN	16	18.18	0.91
EN	15	17.05	0.94
IS	19	21.59	0.58#
ES	38	43.18	1.73*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
MEDICAL TECHNOLOGISTS FOR WHOM SEX IS KNOWN
BASE TOTAL N = 601. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

2.43	2.07	0.07	1.00
0.37	0.21	0.82	2.51
1.00	0.75	1.00	0.49
22.10	2.86	1.00	0.78

E	12.34	IJ	8.99	SJ	2.89	IN	0.21
I	12.34	IP	0.52	SP	2.88	EN	0.08
		EP	0.45	NP	0.02	IS	10.42
S	0.36	EJ	18.70	NJ	0.76	ES	18.28
N	0.36						
		ST	2.94	TJ	5.01		
T	4.84	SF	0.95	TP	0.02		
F	4.84	NF	2.15	FP	1.79		
		NT	0.83	FJ	1.23		
J	1.19						
P	1.19						

```
SOURCE OF DATA:                        GROUP                 MBTI TYPE TABLE
                                     TABULATED:          CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                 OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS               MEDICAL
 HEW CONTRACT 231-76-0051           TECHNOLOGISTS        LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT               FEMALES           TOTAL CHOOSING THIS GROUP
                                                         WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                   I = SELFSELECTION INDEX;
                                                         RATIO OF PERCENT OF TYPE
                                        N=  513          IN GROUP TO % IN SAMPLE.
 TABLE I-10

       SENSING TYPES              INTUITIVE TYPES
 WITH          WITH          WITH          WITH                          N      %       I
 THINKING      FEELING       FEELING       THINKING
----------------------------------------------------                E   206  40.16   0.93*
| I S T J    | I S F J    | I N F J    | I N T J    | J             I   307  59.84   1.05*
|            |            |            |            | U
|            |            |            |            | D             S   315  61.40   0.99
| N=  72     | N=  50     | N=  33     | N=  20     | G             N   198  38.60   1.01
|            |            |            |            | I
| %=14.04    | %=17.54    | %= 6.43    | %= 3.90    | N I           T   204  39.77   0.96"
|            |            |            |            | G N           F   309  60.23   1.03"
| I= 1.07    | I= 1.05    | I= 1.14    | I= 0.98    |   T
|            |            |            |            |   R           J   349  68.03   0.99
----------------------------------------------------    O           P   164  31.97   1.03
| I S T P    | I S F P    | I N F P    | I N T P    |   V
|            |            |            |            |   E           IJ  215  41.91   1.06#
|            |            |            |            |   R           IP   92  17.93   1.03
| N=  10     | N=  31     | N=  34     | N=  17     |   T
|            |            |            |            |   S           EP   72  14.04   1.03
| %= 1.95    | %= 6.04    | %= 6.63    | %= 3.31    | P             EJ  134  26.12   0.89*
|            |            |            |            | E
| I= 1.17    | I= 1.10    | I= 1.02    | I= 0.87    | R             ST  130  25.34   0.95
|            |            |            |            | C             SF  185  36.06   1.02
----------------------------------------------------  E
| E S T P    | E S F P    | E N F P    | E N T P    | P             NF  124  24.17   1.05
|            |            |            |            | T             NT   74  14.42   0.96
|            |            |            |            | I
| N=   9     | N=  18     | N=  31     | N=  14     | V             SJ  247  48.15   0.97
|            |            |            |            | E             SP   68  13.26   1.08
| %= 1.75    | %= 3.51    | %= 6.04    | %= 2.73    | S E
|            |            |            |            |   X           NP   96  18.71   1.00
| I= 0.96    | I= 1.05    | I= 1.01    | I= 1.09    |   T           NJ  102  19.88   1.03
|            |            |            |            |   R
----------------------------------------------------    A           TJ  154  30.02   0.94"
| E S T J    | E S F J    | E N F J    | E N T J    | J V           TP   50   9.75   0.99
|            |            |            |            | U E
|            |            |            |            | D R           FP  114  22.22   1.04
| N=  39     | N=  46     | N=  26     | N=  23     | G T           FJ  195  38.01   1.02
|            |            |            |            | I S
| %= 7.60    | %= 8.97    | %= 5.07    | %= 4.48    | N             IN  104  20.27   1.02
|            |            |            |            | G             EN   94  18.32   1.01
| I= 0.76*   | I= 0.91    | I= 1.02    | I= 0.96    |
|            |            |            |            |               IS  203  39.57   1.07#
----------------------------------------------------                ES  112  21.83   0.87*

  NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
       "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
       #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
       *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

  BASE POPULATION USED IN CALCULATING SELECTION RATIO:
  MEDICAL TECHNOLOGISTS FOR WHOM SEX IS KNOWN
  BASE TOTAL N =   601. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

       TYPE TABLE ORDER            E  12.34   IJ   8.99   SJ   2.89   IN   0.21
                                   I  12.34   IP   0.52   SP   2.88   EN   0.08
  2.43     2.07     0.07     1.00             EP   0.45   NP   0.02   IS  10.42
                                   S   0.36   EJ  18.70   NJ   0.76   ES  18.28
  0.37     0.21     0.82     2.51  N   0.36
                                              ST   2.94   TJ   5.01
  1.00     0.75     1.00     0.49  T   4.84   SF   0.95   TP   0.02
                                   F   4.84   NF   2.15   FP   1.79
 22.10     2.86     1.00     0.78             NT   0.83   FJ   1.23
                                   J   1.19
                                   P   1.19
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE I-11

GROUP
TABULATED:

LABORATORY
TECHNOLOGISTS

N= 167

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

	SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING
INTROVERTS JUDGING	I S T J N= 20 %=11.98 I= 0.92	I S F J N= 16 %= 9.58 I= 0.70	I N F J N= 5 %= 2.99 I= 0.62	I N T J N= 8 %= 4.79 I= 1.11
INTROVERTS PERCEPTIVES	I S T P N= 2 %= 1.20 I= 0.49	I S F P N= 10 %= 5.99 I= 1.18	I N F P N= 22 %=13.17 I= 1.54"	I N T P N= 6 %= 3.59 I= 1.09
EXTRAVERTS PERCEPTIVES	E S T P N= 7 %= 4.19 I= 1.77	E S F P N= 11 %= 6.59 I= 1.66	E N F P N= 9 %= 5.39 I= 0.77	E N T P N= 6 %= 3.59 I= 1.33
EXTRAVERTS JUDGING	E S T J N= 18 %=10.78 I= 1.07	E S F J N= 13 %= 7.78 I= 0.82	E N F J N= 9 %= 5.39 I= 1.06	E N T J N= 5 %= 2.99 I= 0.72

	N	%	I
E	78	46.71	1.04
I	89	53.29	0.97
S	97	58.08	0.97
N	70	41.92	1.05
T	72	43.11	1.02
F	95	56.89	0.99
J	94	56.29	0.87"
P	73	43.71	1.23"
IJ	49	29.34	0.82
IP	40	23.95	1.24
EP	33	19.76	1.23
EJ	45	26.95	0.94
ST	47	28.14	1.01
SF	50	29.94	0.93
NF	45	26.95	1.06
NT	25	14.97	1.04
SJ	67	40.12	0.87
SP	30	17.96	1.30
NP	43	25.75	1.19
NJ	27	16.17	0.88
TJ	51	30.54	0.97
TP	21	12.57	1.16
FP	52	31.14	1.27"
FJ	43	25.75	0.78"
IN	41	24.55	1.17
EN	29	17.37	0.92
IS	48	28.74	0.84
ES	49	29.34	1.13

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN CLINICAL LABORATORY SERVICES
BASE TOTAL N = 1183. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

```
     TYPE TABLE ORDER                E   0.29    IJ  3.57    SJ  2.93    IN  1.51
                                     I   0.29    IP  2.63    SP  2.74    EN  0.31
0.19     2.78     0.25     0.11                  EP  1.97    NP  2.02    IS  2.61
                                     S   0.33    FJ  0.31    NJ  0.61    ES  1.22
0.30     0.38     5.35     0.05      N   0.33
                                                 ST  0.01    TJ  0.09
2.80     3.48     0.79     0.58      T   0.05    SF  0.46    TP  0.62
                                     F   0.05    NF  0.23    FP  4.48
0.11     0.64     0.04     0.53                  NT  0.04    FJ  4.69
                                     J   5.85
                                     P   5.85
```

```
SOURCE OF DATA:                           GROUP                  MBTI TYPE TABLE
                                        TABULATED:            CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                       OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS                LABORATORY
 HEW CONTRACT 231-76-0051              TECHNOLOGISTS          LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT                   MALES              TOTAL CHOOSING THIS GROUP
                                                              WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                        I = SELFSELECTION INDEX;
                                                              RATIO OF PERCENT OF TYPE
                                          N=   88             IN GROUP TO % IN SAMPLE.
 TABLE I-12

       SENSING TYPES               INTUITIVE TYPES
 WITH          WITH           WITH          WITH                            N     %      I
 THINKING      FEELING        FEELING       THINKING
-----------------------------------------------------------            E   44  50.00   1.07
| I S T J     | I S F J     | I N F J     | I N T J     |  J          I   44  50.00   0.94
|             |             |             |             |  U
|             |             |             |             |  D          S   47  53.41   0.92
| N=  11      | N=   7      | N=   2      | N=   5      |  G          N   41  46.59   1.11
|             |             |             |             |  I
| %=12.50     | %= 7.95     | %= 2.27     | %= 5.68     |  N  I       T   45  51.14   1.19"
|             |             |             |             |  G  N       F   43  48.86   0.86"
| I= 1.04     | I= 0.83     | I= 0.76     | I= 1.19     |     T
|             |             |             |             |     R       J   50  56.82   1.01
-----------------------------------------------------------     O       P   38  43.18   0.99
| I S T P     | I S F P     | I N F P     | I N T P     |     V
|             |             |             |             |     E       IJ  25  28.41   0.97
|             |             |             |             |     R       IP  19  21.59   0.90
| N=   2      | N=   1      | N=  11      | N=   5      |     T
|             |             |             |             |     S       EP  19  21.59   1.09
| %= 2.27     | %= 1.14     | %=12.50     | %= 5.68     |  P          EJ  25  28.41   1.05
|             |             |             |             |  E
| I= 1.90     | I= 0.19#    | I= 0.95     | I= 1.58     |  R          ST  28  31.82   1.13
|             |             |             |             |  C          SF  19  21.59   0.72"
-----------------------------------------------------------  E
| E S T P     | E S F P     | E N F P     | E N T P     |  P          NF  24  27.27   1.01
|             |             |             |             |  T          NT  17  19.32   1.29
|             |             |             |             |  I
| N=   4      | N=   6      | N=   5      | N=   4      |  V          SJ  34  38.64   0.96
|             |             |             |             |  E          SP  13  14.77   0.82
| %= 4.55     | %= 6.82     | %= 5.68     | %= 4.55     |  S  E
|             |             |             |             |     X       NP  25  28.41   1.10
| I= 1.08     | I= 1.04     | I= 1.05     | I= 1.27     |     T       NJ  16  18.18   1.12
|             |             |             |             |     R
-----------------------------------------------------------     A       TJ  30  34.09   1.12
| E S T J     | E S F J     | E N F J     | E N T J     |  J  V       TP  15  17.05   1.36
|             |             |             |             |  U  E
|             |             |             |             |  D  R       FP  23  26.14   0.84
| N=  11      | N=   5      | N=   6      | N=   3      |  G  T       FJ  20  22.73   0.88
|             |             |             |             |  I  S
| %=12.50     | %= 5.68     | %= 6.82     | %= 3.41     |  N          IN  23  26.14   1.06
|             |             |             |             |  G          EN  18  20.45   1.18
| I= 1.16     | I= 0.73     | I= 1.27     | I= 1.14     |
|             |             |             |             |             IS  21  23.86   0.83
-----------------------------------------------------------             ES  26  29.55   1.01

    NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
         #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
         *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

    BASE POPULATION USED IN CALCULATING SELECTION RATIO:
    LABORATORY TECHNOLOGISTS
    BASE TOTAL N =    167. SAMPLE AND BASE ARE DEPENDENT.

  * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER             E   0.81   IJ  0.08   SJ  0.17   IN  0.25
                                     I   0.81   IP  0.57   SP  1.29   EN  1.24
  0.05     0.57     0.67     0.72               EP  0.39   NP  0.69   IS  2.16
                                     S   1.67   EJ  0.20   NJ  0.56   ES  0.00
  0.50     0.01     0.07     0.21    N   1.67
                                                ST  1.24   TJ  1.11
  1.00     1.00     1.00     0.68    T   4.88   SF  6.18   TP  3.38
                                     F   4.88   NF  0.01   FP  2.17
  0.57     0.39     0.50     1.00               NT  2.76   FJ  0.89
                                     J   0.02
                                     P   0.02
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE I-13

GROUP
TABULATED:

LABORATORY
TECHNOLOGISTS
FEMALES

N= 79

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX;
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 9 %=11.39 I= 0.95	I S F J N= 9 %=11.39 I= 1.19	I N F J N= 3 %= 3.80 I= 1.27	I N T J N= 3 %= 3.80 I= 0.79	JUDGING	INTROVERTS
I S T P N= 0 %= 0.0 I= 0.0	I S F P N= 9 %=11.39 I= 1.90#	I N F P N= 11 %=13.92 I= 1.06	I N T P N= 1 %= 1.27 I= 0.35	PERCEPTIVES	
E S T P N= 3 %= 3.80 I= 0.91	E S F P N= 5 %= 6.33 I= 0.96	E N F P N= 4 %= 5.06 I= 0.94	E N T P N= 2 %= 2.53 I= 0.70		EXTRAVERTS
E S T J N= 7 %= 8.86 I= 0.82	E S F J N= 8 %=10.13 I= 1.30	E N F J N= 3 %= 3.80 I= 0.70	E N T J N= 2 %= 2.53 I= 0.85	JUDGING	

	N	%	I
E	34	43.04	0.92
I	45	56.96	1.07
S	50	63.29	1.09
N	29	36.71	0.88
T	27	34.18	0.79"
F	52	65.82	1.16"
J	44	55.70	0.99
P	35	44.30	1.01
IJ	24	30.38	1.04
IP	21	26.58	1.11
EP	14	17.72	0.90
EJ	20	25.32	0.94
ST	19	24.05	0.85
SF	31	39.24	1.31"
NF	21	26.58	0.99
NT	8	10.13	0.68
SJ	33	41.77	1.04
SP	17	21.52	1.20
NP	18	22.78	0.88
NJ	11	13.92	0.86
TJ	21	26.58	0.87
TP	6	7.59	0.60
FP	29	36.71	1.18
FJ	23	29.11	1.13
IN	18	22.78	0.93
EN	11	13.92	0.80
IS	27	34.18	1.19
ES	23	29.11	0.99

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
# IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
LABORATORY TECHNOLOGISTS
BASE TOTAL N = 167. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.05	0.57	0.67	0.72
0.50	0.01	0.07	0.21
1.00	1.00	1.00	0.68
0.57	0.32	0.50	1.00

E	0.81	IJ	0.08	SJ	0.17	IN	0.25
I	0.81	IP	0.57	SP	1.29	EN	1.24
		EP	0.39	NP	0.69	IS	2.16
S	1.67	EJ	0.20	NJ	0.56	ES	0.00
N	1.67						
		ST	1.24	TJ	1.11		
T	4.88	SF	6.18	TP	3.38		
F	4.88	NF	0.01	FP	2.17		
		NT	2.76	FJ	0.89		
J	0.02						
P	0.02						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

CLINICAL
LABORATORY
ASSISTANTS

N= 31

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX:
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

TABLE I-14

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 3 %= 9.68 I= 0.74	I S F J N= 4 %=12.90 I= 0.94	I N F J N= 2 %= 6.45 I= 1.34	I N T J N= 1 %= 3.23 I= 0.75	JUDGING	INTROVERTS
I S T P N= 0 %= 0.0 I= 0.0	I S F P N= 0 %= 0.0 I= 0.0	I N F P N= 6 %=19.35 I= 2.27"	I N T P N= 0 %= 0.0 I= 0.0	PERCEPTIVES	
E S T P N= 1 %= 3.23 I= 1.36	E S F P N= 0 %= 0.0 I= 0.0	E N F P N= 7 %=22.58 I= 3.22*	E N T P N= 0 %= 0.0 I= 0.0		EXTRAVERTS
E S T J N= 4 %=12.90 I= 1.28	E S F J N= 2 %= 6.45 I= 0.68	E N F J N= 0 %= 0.0 I= 0.0	E N T J N= 1 %= 3.23 I= 0.78	JUDGING	

	N	%	I
E	15	48.39	1.08
I	16	51.61	0.94
S	14	45.16	0.75
N	17	54.84	1.37
T	10	32.26	0.76
F	21	67.74	1.18
J	17	54.84	0.85
P	14	45.16	1.28
IJ	10	32.26	0.90
IP	6	19.35	1.00
EP	8	25.81	1.61
EJ	7	22.58	0.79
ST	8	25.81	0.93
SF	6	19.35	0.60
NF	15	48.39	1.90#
NT	2	6.45	0.45
SJ	13	41.94	0.91
SP	1	3.23	0.23
NP	13	41.94	1.95#
NJ	4	12.90	0.70
TJ	9	29.03	0.92
TP	1	3.23	0.30
FP	13	41.94	1.70"
FJ	8	25.81	0.78
IN	9	29.03	1.38
EN	8	25.81	1.36
IS	7	22.58	0.66
ES	7	22.58	0.87

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN CLINICAL LABORATORY SERVICES
BASE TOTAL N = 1183. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.61	0.99	0.65	0.99
0.63	0.26	4.77	0.42
0.99	0.40	11.82	0.62
0.76	0.76	0.26	0.99

E	0.17	IJ	0.18	SJ	0.24	IN	1.25
I	0.17	IP	0.00	SP	0.11	EN	0.98
S	2.96	EP	2.24	NP	7.82	IS	1.92
N	2.96	EJ	0.59	NJ	0.49	ES	0.18
T	1.33	ST	0.07	TJ	0.09		
F	1.33	SF	2.41	TP	0.24		
J	1.32	NF	8.83	FP	5.16		
P	1.32	NT	0.30	FJ	0.76		

Appendix J

Dietetics and Nutrition

Table Number	Name of Group Tabulated	Number in Group	Compared to Base
J 1	All Students and Practitioners	524	32,271
J 2	All Students	215	6,738
J 3	All Practitioners	309	524
J 4	Practitioners with Baccalaureate Degrees[a]	147	309
J 5	Practitioners with Graduate Degrees[a]	39	309
J 6	Practitioners: Administrative Dietitians[b]	120	309
J 7	Practitioners: Clinical Dietitians[b]	89	309
J 8	Practitioners: Educational Dietitians[b]	34	309

[a] Information on degrees is available for only 186 of the 309 practitioners.

[b] Information on specialties including at least 30 people is available on 243 of the 309 practitioners.

Note: Most of the data in these tables are from:

Fellers, R. B. *Relationship between Career Satisfaction and Personality Type for Employed Dietitians.* (Doctoral Dissertation, University of Florida, 1974). *Dissertation Abstracts International*, 1975, *36 (03)*, 1465A-1466A. (University Microfilms No. 75-19, 331)

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SOURCE OF DATA:                      GROUP                MBTI TYPE TABLE
                                   TABULATED:          CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY. PH.D.                               OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS        COMPOSITE:  STUDENTS
 HEW CONTRACT 231-76-0051       AND PRACTITIONERS IN   LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT            DIETETIC AND       TOTAL CHOOSING THIS GROUP
                                NUTRITIONAL SERVICES   WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                 I = SELFSELECTION INDEX:
                                                       RATIO OF PERCENT OF TYPE
                                    N=  524            IN GROUP TO % IN SAMPLE.
 TABLE J-1

      SENSING TYPES             INTUITIVE TYPES
 WITH          WITH           WITH          WITH                        N      %       I
 THINKING      FEELING        FEELING       THINKING
 ----------------------------------------------------------      E    303  57.82   1.10"
| I S T J     | I S F J     | I N F J     | I N T J     |  J       I    221  42.18   0.89"
|             |             |             |             |  U
|             |             |             |             |  D       S    308  58.78   1.14*
| N=   47     | N=   65     | N=   19     | N=   17     |  G       N    216  41.22   0.85*
|             |             |             |             |  I
| %= 8.97     | %=12.40     | %= 3.63     | %= 3.24     |  N I     T    193  36.83   1.01
|             |             |             |             |  G N     F    331  63.17   0.99
| I= 1.07     | I= 1.18     | I= 0.68     | I= 0.80     |    T
|             |             |             |             |    R     J    360  68.70   1.16*
 ----------------------------------------------------------   O     P    164  31.30   0.77*
| I S T P     | I S F P     | I N F P     | I N T P     |    V
|             |             |             |             |    E     IJ   148  28.24   1.00
|             |             |             |             |    R     IP    73  13.93   0.72#
| N=   14     | N=   17     | N=   33     | N=    9     |    T
|             |             |             |             |    S     EP    91  17.37   0.81"
| %= 2.67     | %= 3.24     | %= 6.30     | %= 1.72     |  P       EJ   212  40.46   1.31*
|             |             |             |             |  E
| I= 1.14     | I= 0.71     | I= 0.72"    | I= 0.46"    |  R       ST   117  22.33   1.10
|             |             |             |             |  C       SF   191  36.45   1.18#
 ----------------------------------------------------------   E
| E S T P     | E S F P     | E N F P     | E N T P     |  P       NF   140  26.72   0.82#
|             |             |             |             |  T       NT    76  14.50   0.91
|             |             |             |             |  I
| N=    9     | N=   26     | N=   38     | N=   18     |  V       SJ   242  46.18   1.22*
|             |             |             |             |  E       SP    66  12.60   0.94
| %= 1.72     | %= 4.96     | %= 7.25     | %= 3.44     |  S E
|             |             |             |             |    X     NP    98  18.70   0.68*
| I= 0.90     | I= 1.08     | I= 0.64#    | I= 0.95     |    T     NJ   118  22.52   1.06
|             |             |             |             |    R
 ----------------------------------------------------------     A     TJ   143  27.29   1.10
| E S T J     | E S F J     | E N F J     | E N T J     |  J V     TP    50   9.54   0.82
|             |             |             |             |  U E
|             |             |             |             |  D R     FP   114  21.76   0.74*
| N=   47     | N=   83     | N=   50     | N=   32     |  G T     FJ   217  41.41   1.20*
|             |             |             |             |  I S
| %= 8.97     | %=15.84     | %= 9.54     | %= 6.11     |  N       IN    78  14.89   0.68*
|             |             |             |             |  G       EN   138  26.34   0.98
| I= 1.16     | I= 1.40*    | I= 1.32"    | I= 1.33     |
|             |             |             |             |          IS   143  27.29   1.06
 ----------------------------------------------------------          ES   165  31.49   1.23#

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COMPOSITE OF STUDENTS & PRACTITIONERS IN ALL HEALTH AND HEALTH RELATED FIELDS.
   BASE TOTAL N = 32271. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

       TYPE TABLE ORDER                E     6.36   IJ    0.00   SJ   15.38   IN   15.13
                                       I     6.36   IP   10.00   SP    0.32   EN    0.05
 0.26      2.01      3.12      0.91                 EP    5.33   NP   20.18   IS    0.63
                                       S    11.69   EJ   22.82   NJ    0.52   ES    9.72
 0.25      2.12      4.00      5.85    N    11.69
                                                    ST    1.27   TJ    1.85
 0.11      0.15      8.78      0.05    T     0.06   SF    7.36   TP    2.15
                                       F     0.06   NF    8.56   FP   14.42
 1.12     10.86      4.16      2.83                 NT    0.84   FJ   11.48
                                       J    19.98
                                       P    19.98
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SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

COMPOSITE OF
STUDENTS IN
DIETETIC AND
NUTRITIONAL SERVICES

N= 215

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE. I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE J-2

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 11 %= 5.12 I= 0.83	I S F J N= 24 %=11.16 I= 1.52"	I N F J N= 8 %= 3.72 I= 1.24	I N T J N= 6 %= 2.79 I= 1.22	JUDGING	INTROVERTS
I S T P N= 2 %= 0.93 I= 0.24"_	I S F P N= 9 %= 4.19 I= 0.54	I N F P N= 10 %= 4.65 I= 0.50"	I N T P N= 3 %= 1.40 I= 0.35	PERCEPTIVES	
E S T P N= 2 %= 0.93 I= 0.21"_	E S F P N= 12 %= 5.58 I= 0.58"	E N F P N= 20 %= 9.30 I= 0.72	E N T P N= 8 %= 3.72 I= 0.82		EXTRAVERTS
E S T J N= 13 %= 6.05 I= 0.86	E S F J N= 48 %=22.33 I= 2.08*	E N F J N= 32 %=14.88 I= 3.56*	E N T J N= 7 %= 3.26 I= 1.18	JUDGING	

	N	%	I
E	142	66.05	1.17#
I	73	33.95	0.78#
S	121	56.28	0.99
N	94	43.72	1.02
T	52	24.19	0.69*
F	163	75.81	1.17*
J	149	69.30	1.59*
P	66	30.70	0.54*
IJ	49	22.79	1.21
IP	24	11.16	0.45*
EP	42	19.53	0.62*
EJ	100	46.51	1.88*
ST	28	13.02	0.61#
SF	93	43.26	1.22"
NF	70	32.56	1.11
NT	24	11.16	0.82
SJ	96	44.65	1.43*
SP	25	11.63	0.45*
NP	41	19.07	0.62*
NJ	53	24.65	2.01*
TJ	37	17.21	0.94
TP	15	6.98	0.41*
FP	51	23.72	0.60*
FJ	112	52.09	2.06*
IN	27	12.56	0.67"
EN	67	31.16	1.28"
IS	46	21.40	0.85
ES	75	34.88	1.09

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
BASE TOTAL N = 6738. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.38	4.44	0.36	0.24
0.03	3.70	5.50	0.07
0.01	4.04	2.40	0.33
0.32	28.31	55.30	0.19

E	8.14	IJ	2.19	SJ	17.23	IN	5.17
I	8.14	IP	21.47	SP	21.83	EN	5.19
		EP	13.93	NP	13.53	IS	1.51
S	0.04	EJ	52.10	NJ	29.07	ES	0.86
N	0.04						
		ST	8.93	TJ	0.15		
T	10.94	SF	5.50	TP	14.73		
F	10.94	NF	0.98	FP	22.13		
		NT	1.07	FJ	77.69		
J	56.15						
P	56.15						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE J-3

GROUP
TABULATED:

COMPOSITE OF
PRACTITIONERS IN
DIETETIC AND
NUTRITIONAL SERVICES

N= 309

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 36 %=11.65 I= 1.30#	I S F J N= 41 %=13.27 I= 1.07	I N F J N= 11 %= 3.56 I= 0.98	I N T J N= 11 %= 3.56 I= 1.10	JUDGING	INTROVERTS
I S T P N= 12 %= 3.88 I= 1.45	I S F P N= 8 %= 2.59 I= 0.80	I N F P N= 23 %= 7.44 I= 1.18	I N T P N= 6 %= 1.94 I= 1.13	PERCEPTIVES	
E S T P N= 7 %= 2.27 I= 1.32	E S F P N= 14 %= 4.53 I= 0.91	E N F P N= 18 %= 5.83 I= 0.80	E N T P N= 10 %= 3.24 I= 0.94		EXTRAVERTS
E S T J N= 34 %=11.00 I= 1.23"	E S F J N= 35 %=11.33 I= 0.72*	E N F J N= 18 %= 5.83 I= 0.61*	E N T J N= 25 %= 8.09 I= 1.32"	JUDGING	

	N	%	I
E	161	52.10	0.90#
I	148	47.90	1.14#
S	187	60.52	1.03
N	122	39.48	0.96
T	141	45.63	1.24*
F	168	54.37	0.86*
J	211	68.28	0.99
P	98	31.72	1.01
IJ	99	32.04	1.13"
IP	49	15.86	1.14
EP	49	15.86	0.91
EJ	112	36.25	0.90"
ST	89	28.80	1.29*
SF	98	31.72	0.87#
NF	70	22.65	0.85"
NT	52	16.83	1.16
SJ	146	47.25	1.02
SP	41	13.27	1.05
NP	57	18.45	0.99
NJ	65	21.04	0.93
TJ	106	34.30	1.26*
TP	35	11.33	1.19
FP	63	20.39	0.94
FJ	105	33.98	0.82*
IN	51	16.50	1.11
EN	71	22.98	0.87"
IS	97	31.39	1.15"
ES	90	29.13	0.92

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS AND PRACTITIONERS IN DIETETICS AND NUTRITIONAL SERVICES.
BASE TOTAL N = 524. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

6.63	0.52	0.01	0.24
0.05	1.03	1.68	0.74
0.32	0.30	2.28	0.09
3.82	11.51	12.05	5.17

E	10.11	IJ	5.35	SJ	0.34	IN	1.56
I	10.11	IP	2.33	SP	0.31	EN	4.38
		EP	1.19	NP	0.03	IS	6.38
S	0.94	EJ	5.55	NJ	0.95	ES	1.95
N	0.94						
		ST	18.20	TJ	18.67		
T	25.06	SF	7.29	TP	2.78		
F	25.06	NF	6.35	FP	0.83		
		NT	3.28	FJ	17.14		
J	0.06						
P	0.06						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE J-4

GROUP
TABULATED:

DIETITIANS AND
NUTRITIONISTS WITH
BACCALAUREATE
DEGREES

N= 147

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 18 %=12.24 I= 1.05	I S F J N= 25 %=17.01 I= 1.28	I N F J N= 8 %= 5.44 I= 1.53	I N T J N= 6 %= 4.08 I= 1.15	JUDGING INTROVERTS
I S T P N= 7 %= 4.76 I= 1.23	I S F P N= 5 %= 3.40 I= 1.31	I N F P N= 11 %= 7.48 I= 1.01	I N T P N= 3 %= 2.04 I= 1.05	PERCEPTIVES
E S T P N= 3 %= 2.04 I= 0.90	E S F P N= 4 %= 2.72 I= 0.60	E N F P N= 6 %= 4.08 I= 0.70	E N T P N= 4 %= 2.72 I= 0.84	PERCEPTIVES EXTRAVERTS
E S T J N= 16 %=10.88 I= 0.99	E S F J N= 17 %=11.56 I= 1.02	E N F J N= 7 %= 4.76 I= 0.82	E N T J N= 7 %= 4.76 I= 0.59"	JUDGING

	N	%	I
E	64	43.54	0.84#
I	83	56.46	1.18#
S	95	64.63	1.07
N	52	35.37	0.90
T	64	43.54	0.95
F	83	56.46	1.04
J	104	70.75	1.04
P	43	29.25	0.92
IJ	57	38.78	1.21"
IP	26	17.69	1.12
EP	17	11.56	0.73"
EJ	47	31.97	0.88
ST	44	29.93	1.04
SF	51	34.69	1.09
NF	32	21.77	0.96
NT	20	13.61	0.81
SJ	76	51.70	1.09
SP	19	12.93	0.97
NP	24	16.33	0.89
NJ	28	19.05	0.91
TJ	47	31.97	0.93
TP	17	11.56	1.02
FP	26	17.69	0.87
FJ	57	38.78	1.14
IN	28	19.05	1.15
EN	24	16.33	0.71#
IS	55	37.41	1.19"
ES	40	27.21	0.93

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN DIETETIC AND NUTRITIONAL SERVICES
BASE TOTAL N = 309. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.10	3.40	0.12	0.76
0.56	0.48	0.00	1.00
1.00	0.18	1.55	0.75
0.00	0.02	0.58	4.18

E	8.24	IJ	5.84	SJ	2.23	IN	1.32
I	8.24	IP	0.70	SP	0.03	EN	7.01
		EP	3.87	NP	0.84	IS	4.72
S	1.98	EJ	2.22	NJ	0.67	ES	0.50
N	1.98						
		ST	0.17	TJ	0.68		
T	0.50	SF	1.15	TP	0.02		
F	0.50	NF	0.13	FP	1.26		
		NT	2.08	FJ	2.87		
J	0.79						
P	0.79						

5.

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

DIETITIANS AND
NUTRITIONISTS WITH
GRADUATE DEGREES

N= 39

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX:
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

TABLE J-5

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 5 %=12.82 I= 1.10	I S F J N= 4 %=10.26 I= 0.77	I N F J N= 0 %= 0.0 I= 0.0	I N T J N= 1 %= 2.56 I= 0.72	JUDGING	INTROVERTS
I S T P N= 0 %= 0.0 I= 0.0	I S F P N= 1 %= 2.56 I= 0.99	I N F P N= 3 %= 7.69 I= 1.03	I N T P N= 1 %= 2.56 I= 1.32	PERCEPTIVES	
E S T P N= 2 %= 5.13 I= 2.26	E S F P N= 2 %= 5.13 I= 1.13	E N F P N= 1 %= 2.56 I= 0.44	E N T P N= 0 %= 0.0 I= 0.0		EXTRAVERTS
E S T J N= 5 %=12.82 I= 1.17	E S F J N= 4 %=10.26 I= 0.91	E N F J N= 6 %=15.38 I= 2.64#	E N T J N= 4 %=10.26 I= 1.27	JUDGING	

	N	%	I
E	24	61.54	1.18
I	15	38.46	0.80
S	23	58.97	0.97
N	16	41.03	1.04
T	18	46.15	1.01
F	21	53.85	0.99
J	29	74.36	1.09
P	10	25.64	0.81
IJ	10	25.64	0.80
IP	5	12.82	0.81
EP	5	12.82	0.81
EJ	19	48.72	1.34
ST	12	30.77	1.07
SF	11	28.21	0.89
NF	10	25.64	1.13
NT	6	15.38	0.91
SJ	18	46.15	0.98
SP	5	12.82	0.97
NP	5	12.82	0.70
NJ	11	28.21	1.34
TJ	15	38.46	1.12
TP	3	7.69	0.68
FP	7	17.95	0.88
FJ	14	35.90	1.06
IN	5	12.82	0.78
EN	11	28.21	1.23
IS	10	25.64	0.82
ES	13	33.33	1.14

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN DIETETIC AND NUTRITIONAL SERVICES
BASE TOTAL N = 309. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

1.00	0.63	0.37	1.00
0.24	1.00	1.00	1.00
0.22	1.00	0.49	0.37
0.78	1.00	7.43	0.75

E	1.59	IJ	0.84	SJ	0.02	IN	0.65
I	1.59	IP	0.65	SP	1.00	EN	0.69
		EP	0.65	NP	0.39	IS	0.69
S	0.04	EJ	3.00	NJ	1.38	ES	0.38
N	0.04						
		ST	0.08	TJ	0.34		
T	0.00	SF	0.25	TP	0.59		
F	0.00	NF	0.23	FP	0.16		
		NT	0.07	FJ	0.07		
J	0.76						
P	0.76						

```
SOURCE OF DATA:                           GROUP                   MBTI TYPE TABLE
                                        TABULATED:          CENTER FOR APPLICATIONS
  MARY H. MCCAULLEY. PH.D.                                    OF PSYCHOLOGICAL TYPE
   AND CTHER CONTRIBUTORS              ADMINISTRATIVE
  HEW CCNTRACT 231-76-0051               DIETITIANS         LEGEND: % = PERCENT OF
   AMSA FOUNDATION - CAPT                                   TOTAL CHOOSING THIS GROUP
                                                            WHO FALL INTO THIS TYPE.
  TABLE CREATED 7/31/77                                     I = SELFSELECTION INDEX;
                                                            RATIO OF PERCENT OF TYPE
                                           N=  120          IN GROUP TO % IN SAMPLE.
  TABLE J-6

        SENSING TYPES               INTUITIVE TYPES
WITH           WITH          WITH           WITH                              N    %      I
THINKING       FEELING       FEELING        THINKING
-----------------------------------------------------------            E     63 52.50   1.01
| I S T J    | I S F J    | I N F J    | I N T J    |   J           I     57 47.50   0.99
|            |            |            |            |   U
|            |            |            |            |   D           S     78 65.00   1.07
| N=  19     | N=  12     | N=   2     | N=   3     |   G           N     42 35.00   0.89
|            |            |            |            |   I
| %=15.83    | %=10.00    | %= 1.67    | %= 2.50    |   N  I        T     64 53.33   1.17"
|            |            |            |            |   G  N        F     56 46.67   0.86"
| I= 1.36    | I= 0.75    | I= 0.47    | I= 0.70    |      T
|            |            |            |            |      R        J     79 65.83   0.96
|            |            |            |            |      O        P     41 34.17   1.08
-----------------------------------------------------------
| I S T P    | I S F P    | I N F P    | I N T P    |      V
|            |            |            |            |      E        IJ    36 30.00   0.94
|            |            |            |            |      R        IP    21 17.50   1.10
| N=   5     | N=   3     | N=  10     | N=   3     |      T
|            |            |            |            |      S        EP    20 16.67   1.05
| %= 4.17    | %= 2.50    | %= 8.33    | %= 2.50    |   P           EJ    43 35.83   0.99
|            |            |            |            |   E
| I= 1.07    | I= 0.97    | I= 1.12    | I= 1.29    |   R           ST    45 37.50   1.30#
|            |            |            |            |   C           SF    33 27.50   0.87
-----------------------------------------------------------   E
| E S T P    | E S F P    | E N F P    | E N T P    |   P           NF    23 19.17   0.85
|            |            |            |            |   T           NT    19 15.83   0.94
|            |            |            |            |   I
| N=   7     | N=   4     | N=   5     | N=   4     |   V           SJ    59 49.17   1.04
|            |            |            |            |   E           SP    19 15.83   1.19
| %= 5.83    | %= 3.33    | %= 4.17    | %= 3.33    |   S  E
|            |            |            |            |      X        NP    22 18.33   0.99
| I= 2.57#   | I= 0.74    | I= 0.72    | I= 1.03    |      T        NJ    20 16.67   0.79
|            |            |            |            |      R
-----------------------------------------------------------   A        TJ    45 37.50   1.09
| E S T J    | E S F J    | E N F J    | E N T J    |   J  V        TP    19 15.83   1.40"
|            |            |            |            |   U  E
|            |            |            |            |   D  R        FP    22 18.33   0.90
| N=  14     | N=  14     | N=   6     | N=   9     |   G  T        FJ    34 28.33   0.83
|            |            |            |            |   I  S
| %=11.67    | %=11.67    | %= 5.00    | %= 7.50    |   N           IN    18 15.00   0.91
|            |            |            |            |   G           EN    24 20.00   0.87
| I= 1.06    | I= 1.03    | I= 0.86    | I= 0.93    |
|            |            |            |            |               IS    39 32.50   1.04
-----------------------------------------------------------            ES    39 32.50   1.12

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. >  3.8;
         #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. >  6.6;
         *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COMPOSITE OF PRACTITIONERS IN DIETETIC AND NUTRITIONAL SERVICES
   BASE TOTAL N =    309. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER              E    0.01    IJ   0.37    SJ   0.29    IN   0.32
                                      I    0.01    IP   0.40    SP   1.12    EN   0.98
 3.33      1.82      0.21      0.54                FP   0.10    NP   0.00    IS   0.11
                                      S    1.65    EJ   0.01    NJ   2.25    ES   1.08
 1.00      1.00      0.23      0.68   N    1.65
                                                   ST   7.24    TJ   0.89
 0.00      0.58      0.46      1.00   T    4.69    SF   1.61    TP   3.97
                                      F    4.69    NF   1.36    FP   0.51
 0.09      0.02      0.24      0.09                NT   0.14    FJ   2.79
                                      J    0.54
                                      P    0.54
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

CLINICAL DIETITIANS

N= 89

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE. I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE J-7

	SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING
INTROVERTS JUDGING	I S T J N= 8 %= 8.99 I= 0.77	I S F J N= 15 %=16.85 I= 1.27	I N F J N= 8 %= 8.99 I= 2.53#	I N T J N= 5 %= 5.62 I= 1.58
INTROVERTS PERCEPTIVES	I S T P N= 3 %= 3.37 I= 0.87	I S F P N= 2 %= 2.25 I= 0.87	I N F P N= 6 %= 6.74 I= 0.91	I N T P N= 1 %= 1.12 I= 0.58
EXTRAVERTS PERCEPTIVES	E S T P N= 0 %= 0.0 I= 0.0	E S F P N= 6 %= 6.74 I= 1.49	E N F P N= 4 %= 4.49 I= 0.77	E N T P N= 1 %= 1.12 I= 0.35
EXTRAVERTS JUDGING	E S T J N= 12 %=13.48 I= 1.23	E S F J N= 9 %=10.11 I= 0.89	E N F J N= 5 %= 5.62 I= 0.96	E N T J N= 4 %= 4.49 I= 0.56

	N	%	I
E	41	46.07	0.88
I	48	53.93	1.13
S	55	61.80	1.02
N	34	38.20	0.97
T	34	38.20	0.84
F	55	61.80	1.14
J	66	74.16	1.09
P	23	25.84	0.81
IJ	36	40.45	1.26"
IP	12	13.48	0.85
EP	11	12.36	0.78
EJ	30	33.71	0.93
ST	23	25.84	0.90
SF	32	35.96	1.13
NF	23	25.84	1.14
NT	11	12.36	0.73
SJ	44	49.44	1.05
SP	11	12.36	0.93
NP	12	13.48	0.73
NJ	22	24.72	1.18
TJ	29	32.58	0.95
TP	5	5.62	0.50"_
FP	18	20.22	0.99
FJ	37	41.57	1.22
IN	20	22.47	1.36
EN	14	15.73	0.68
IS	28	31.46	1.00
ES	27	30.34	1.04

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN DIETETIC AND NUTRITIONAL SERVICES
BASE TOTAL N = 309. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.86	1.40	0.00	0.31
1.00	1.00	0.09	0.68
0.11	1.41	0.60	0.29
0.79	0.18	1.00	0.17

E	1.83	IJ	4.06	SJ	0.24	IN	3.23
I	1.83	IP	0.53	SP	0.09	EN	3.71
		EP	1.15	NP	2.05	IS	0.00
S	0.09	EJ	0.35	NJ	1.02	ES	0.09
N	0.09						
		ST	0.53	TJ	0.16		
T	2.78	SF	1.04	TP	0.05		
F	2.78	NF	0.73	FP	0.00		
		NT	1.78	FJ	3.21		
J	1.99						
P	1.99						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLF CREATED 7/31/77

TABLE J-8

GROUP
TABULATED:

EDUCATIONAL
DIETITIANS

N= 34

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

SENSING TYPES		INTUITIVE TYPES		
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING	
I S T J N= 2 %= 5.88 I= 0.50	I S F J N= 3 %= 8.82 I= 0.66	I N F J N= 1 %= 2.94 I= 0.83	I N T J N= 1 %= 2.94 I= 0.83	JUDGING INTROVERTS
I S T P N= 0 %= 0.0 I= 0.0	I S F P N= 2 %= 5.88 I= 2.27	I N F P N= 2 %= 5.88 I= 0.79	I N T P N= 1 %= 2.94 I= 1.51	PERCEPTIVES
E S T P N= 0 %= 0.0 I= 0.0	E S F P N= 1 %= 2.94 I= 0.65	E N F P N= 3 %= 8.82 I= 1.51	E N T P N= 2 %= 5.88 I= 1.82	EXTRAVERTS
E S T J N= 4 %=11.76 I= 1.07	E S F J N= 5 %=14.71 I= 1.30	E N F J N= 3 %= 8.82 I= 1.51	E N T J N= 4 %=11.76 I= 1.45	JUDGING

	N	%	I
E	22	64.71	1.24
I	12	35.29	0.74
S	17	50.00	0.83
N	17	50.00	1.27
T	14	41.18	0.90
F	20	58.82	1.08
J	23	67.65	0.99
P	11	32.35	1.02
IJ	7	20.59	0.64
IP	5	14.71	0.93
EP	6	17.65	1.11
EJ	16	47.06	1.30
ST	6	17.65	0.61
SF	11	32.35	1.02
NF	9	26.47	1.17
NT	8	23.53	1.40
SJ	14	41.18	0.87
SP	3	8.82	0.66
NP	8	23.53	1.28
NJ	9	26.47	1.26
TJ	11	32.35	0.94
TP	3	8.82	0.78
FP	8	23.53	1.15
FJ	12	35.29	1.04
IN	5	14.71	0.89
EN	12	35.29	1.54
IS	7	20.59	0.66
ES	10	29.41	1.01

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN DIETETIC AND NUTRITIONAL SERVICES
BASE TOTAL N = 309. SAMPLE AND BASE ARE DEPENDENT.

```
* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER            E    2.43   IJ   2.30   SJ   0.57   IN   0.81
                                    I    2.43   IP   1.00   SP   0.45   EN   3.27
 0.40      0.45      1.00      1.00             EP   0.09   NP   0.66   IS   2.07
                                    S    1.77   EJ   1.93   NJ   0.68   ES   0.00
 0.37      0.22      0.76      1.00 N    1.77
                                                ST   2.32   TJ   0.06
 0.61      0.72      0.43      0.61 T    0.31   SF   0.01   TP   0.78
                                    F    0.31   NF   0.32   FP   0.23
 1.00      0.56      0.43      0.50             NT   1.23   FJ   0.03
                                    J    0.01
                                    P    0.01
```

Appendix K

Occupational Therapy

Table Number	Name of Group Tabulated	Number in Group	Compared to Base
K 1	All Students and Practitioners	841	32,271
K 2	Occupational Therapy Students	684	2,831
K 3	Occupational Therapists	157	841
K 4	Florida Occupational Therapists[a]	118	841
K 5	Florida Therapists Working as Occupational Therapists	75	118

---

[a] Data for Florida Occupational Therapists from:

Brown - Kahler, P. U. *Career Development and Satisfaction of Occupational Therapists in Florida* (Doctoral dissertation, University of Florida, 1973). *Dissertation Abstracts International*, 1974, *34*, 6930A. (University Microfilms No. 74-10, 025)

```
SOURCE OF DATA:                               GROUP                        MBTI TYPE TABLE
                                            TABULATED:                 CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                               OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS                   COMPOSITE OF
 HEW CONTRACT 231-76-0051                  STUDENTS AND                LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT                 PRACTITIONERS IN              TOTAL CHOOSING THIS GROUP
                                       OCCUPATIONAL THERAPY            WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                                 I = SELFSELECTION INDEX;
                                                                       RATIO OF PERCENT OF TYPE
                                              N=  841                  IN GROUP TO % IN SAMPLE.
 TABLE K-1

          SENSING TYPES                         INTUITIVE TYPES
 WITH                    WITH                    WITH                    WITH                                  N      %      I
 THINKING                FEELING                 FEELING                 THINKING
-------------------------------------------------------------------------------------------------        E   495  58.86  1.12*
| I S T J               | I S F J               | I N F J               | I N T J               |  J     I   346  41.14  0.86*
|                       |                       |                       |                       |  U
|                       |                       |                       |                       |  D     S   340  40.43  0.79*
| N=  37                | N=  81                | N=  45                | N=  20                |  G     N   501  59.57  1.23*
|                       |                       |                       |                       |  I
| %= 4.40               | %= 9.63               | %= 5.35               | %= 2.38               |  N I   T   227  26.99  0.74*
|                       |                       |                       |                       |  G N   F   614  73.01  1.15*
| I= 0.53*              | I= 0.92               | I= 1.00               | I= 0.59"              |    T
|                       |                       |                       |                       |    R   J   419  49.82  0.84*
-------------------------------------------------------------------------------------------------    O   P   422  50.18  1.23*
| I S T P               | I S F P               | I N F P               | I N T P               |    V
|                       |                       |                       |                       |    E   IJ  183  21.76  0.77*
|                       |                       |                       |                       |    R   IP  163  19.38  1.00
| N=  13                | N=  40                | N=  74                | N=  36                |    T
|                       |                       |                       |                       |    S   EP  259  30.80  1.43*
| %= 1.55               | %= 4.76               | %= 8.80               | %= 4.28               |  P     EJ  236  28.06  0.91
|                       |                       |                       |                       |  E
| I= 0.66               | I= 1.04               | I= 1.01               | I= 1.16               |  R     ST  101  12.01  0.59*
|                       |                       |                       |                       |  C     SF  239  28.42  0.92
-------------------------------------------------------------------------------------------------  E
| E S T P               | E S F P               | E N F P               | E N T P               |  P     NF  375  44.59  1.37*
|                       |                       |                       |                       |  T     NT  126  14.98  0.94
|                       |                       |                       |                       |  I
| N=  11                | N=  33                | N= 195                | N=  20                |  V     SJ  243  28.89  0.76*
|                       |                       |                       |                       |  E     SP   97  11.53  0.86
| %= 1.31               | %= 3.92               | %=23.19               | %= 2.38               |  S E
|                       |                       |                       |                       |    X   NP  325  38.64  1.41*
| I= 0.68               | I= 0.85               | I= 2.05*              | I= 0.66"              |    T   NJ  176  20.93  0.99
|                       |                       |                       |                       |    R
-------------------------------------------------------------------------------------------------    A   TJ  147  17.48  0.71*
| E S T J               | E S F J               | E N F J               | E N T J               |  J V   TP   80   9.51  0.82
|                       |                       |                       |                       |  U E
|                       |                       |                       |                       |  D R   FP  342  40.67  1.39*
| N=  40                | N=  85                | N=  61                | N=  50                |  G T   FJ  272  32.34  0.94
|                       |                       |                       |                       |  I S
| %= 4.76               | %=10.11               | %= 7.25               | %= 5.95               |  N     IN  175  20.81  0.95
|                       |                       |                       |                       |  G     EN  326  38.76  1.45*
| I= 0.61#              | I= 0.89               | I= 1.00               | I= 1.30               |
|                       |                       |                       |                       |        IS  171  20.33  0.79*
-------------------------------------------------------------------------------------------------        ES  169  20.10  0.79*

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. >  3.8;
         #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. >  6.6;
         *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
   (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COMPOSITE OF STUDENTS & PRACTITIONERS IN ALL HEALTH AND HEALTH RELATED FIELDS.
   BASE TOTAL N = 32271. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER                E  14.58    IJ  18.14    SJ  30.00    IN   0.55
                                        I  14.58    IP   0.00    SP   2.69    EN  63.28
 17.66      0.72      0.00      6.29                EP  44.50    NP  55.10    IS  13.40
                                        S  41.42    EJ   3.25    NJ   0.05    ES  13.70
  2.40      0.08      0.00      0.84    N  41.42
                                                    ST  37.15    TJ  24.49
  1.71      0.93    121.14      3.83    T  32.51    SF   2.72    TP   3.60
                                        F  32.51    NF  55.84    FP  54.49
 10.79      1.26      0.00      3.66                NT   0.62    FJ   1.68
                                        J  31.33
                                        P  31.33
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

COMPOSITE OF
STUDENTS IN

OCCUPATIONAL THERAPY

N= 684

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX:
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

TABLE K-2

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 23 %= 3.36 I= 0.99	I S F J N= 67 %= 9.80 I= 1.14	I N F J N= 37 %= 5.41 I= 1.94*	I N T J N= 12 %= 1.75 I= 1.71	JUDGING INTROVERTS
I S T P N= 11 %= 1.61 I= 0.88	I S F P N= 31 %= 4.53 I= 0.58#	I N F P N= 63 %= 9.21 I= 0.89	I N T P N= 25 %= 3.65 I= 1.46	PERCEPTIVES
E S T P N= 7 %= 1.02 I= 0.36#	E S F P N= 28 %= 4.09 I= 0.34*	E N F P N= 172 %= 25.15 I= 1.44*	E N T P N= 14 %= 2.05 I= 0.63	EXTRAVERTS
E S T J N= 30 %= 4.39 I= 1.05	E S F J N= 74 %= 10.82 I= 0.74#	E N F J N= 53 %= 7.75 I= 1.42"	E N T J N= 37 %= 5.41 I= 3.00*	JUDGING

	N	%	I
E	415	60.67	0.98
I	269	39.33	1.03
S	271	39.62	0.72*
N	413	60.38	1.35*
T	159	23.25	1.12
F	525	76.75	0.97
J	333	48.68	1.16#
P	351	51.32	0.88#
IJ	139	20.32	1.28#
IP	130	19.01	0.85"
EP	221	32.31	0.91
EJ	194	28.36	1.09
ST	71	10.38	0.85
SF	200	29.24	0.68*
NF	325	47.51	1.32*
NT	88	12.87	1.50*
SJ	194	28.36	0.92
SP	77	11.26	0.46*
NP	274	40.06	1.19#
NJ	139	20.32	1.83*
TJ	102	14.91	1.44*
TP	57	8.33	0.80
FP	294	42.98	0.90"
FJ	231	33.77	1.07
IN	137	20.03	1.20"
EN	276	40.35	1.44*
IS	132	19.30	0.89
ES	139	20.32	0.60*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
FEMALE HIGH SCHOOL JUNIORS AND SENIORS ON THE CAPT DATA BANK
BASE TOTAL N = 2831. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR <u>FISHER'S EXACT PROBABILITY</u> * * * *

```
     TYPE TABLE ORDER              E    0.25   IJ    8.01   SJ    1.55   IN    4.33
                                   I    0.25   IP    3.87   SP   56.54   EN   39.64
0.00    0.95   11.84    2.55                   EP    2.69   NP   10.14   IS    1.78
                                   S   54.40   EJ    1.49   NJ   41.81   ES   46.01
0.16    8.72    0.79    2.73       N   54.40
                                               ST    1.85   TJ   11.29
7.62   37.07   21.03    2.73       T    1.90   SF   43.70   TP    2.75
                                   F    1.90   NF   30.37   FP    4.82
0.06    6.67    5.11   29.38                   NT   11.84   FJ    1.30
                                   J   10.35
                                   P   10.35
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

COMPOSITE OF
PRACTITIONERS IN

OCCUPATIONAL THERAPY

N= 157

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX;
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

TABLE K-3

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 14 %= 8.92 I= 2.03#	I S F J N= 14 %= 8.92 I= 0.93	I N F J N= 8 %= 5.10 I= 0.95	I N T J N= 8 %= 5.10 I= 2.14"	JUDGING INTROVERTS
I S T P N= 2 %= 1.27 I= 0.82	I S F P N= 9 %= 5.73 I= 1.21	I N F P N= 11 %= 7.01 I= 0.80	I N T P N= 11 %= 7.01 I= 1.64	PERCEPTIVES
E S T P N= 4 %= 2.55 I= 1.95	E S F P N= 5 %= 3.18 I= 0.81	E N F P N= 23 %=14.65 I= 0.63#	E N T P N= 6 %= 3.82 I= 1.61	PERCEPTIVES EXTRAVERTS
E S T J N= 10 %= 6.37 I= 1.34	E S F J N= 11 %= 7.01 I= 0.69	E N F J N= 8 %= 5.10 I= 0.70	E N T J N= 13 %= 8.28 I= 1.39	JUDGING

	N	%	I
E	80	50.96	0.87"
I	77	49.04	1.19"
S	69	43.95	1.09
N	88	56.05	0.94
T	68	43.31	1.60*
F	89	56.69	0.78*
J	86	54.78	1.10
P	71	45.22	0.90
IJ	44	28.03	1.29"
IP	33	21.02	1.08
EP	38	24.20	0.79"
EJ	42	26.75	0.95
ST	30	19.11	1.59#
SF	39	24.84	0.87
NF	50	31.85	0.71*
NT	38	24.20	1.62*
SJ	49	31.21	1.08
SP	20	12.74	1.10
NP	51	32.48	0.84
NJ	37	23.57	1.13
TJ	45	28.66	1.64*
TP	23	14.65	1.54"
FP	48	30.57	0.75#
FJ	41	26.11	0.81
IN	38	24.20	1.16
EN	50	31.85	0.82"
IS	39	24.84	1.22
ES	30	19.11	0.95

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS AND PRACTITIONERS IN OCCUPATIONAL THERAPY
BASE TOTAL N = 841. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

9.37	0.11	0.02	6.14
1.00	0.41	0.77	3.50
0.23	0.66	7.90	1.73
1.11	2.04	1.34	1.88

E	4.98	IJ	4.45	SJ	0.50	IN	1.35
I	4.98	IP	0.33	SP	0.27	EN	3.89
S	0.99	EP	3.94	NP	3.09	IS	2.42
N	0.99	EJ	0.16	NJ	0.81	ES	0.12
T	26.09	ST	9.21	TJ	16.74		
F	26.09	SF	1.21	TP	5.92		
J	1.90	NF	12.69	FP	8.15		
P	1.90	NT	12.89	FJ	3.42		

SOURCE OF DATA:

POLLY V. BROWN-KAHLER
DOCTORAL DISSERTATION
UNIV. OF FLORIDA, 1973
TABLE PREPARED FOR
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

GROUP
TABULATED:

FLORIDA
OCCUPATIONAL
THERAPISTS
BROWN-KAHLER STUDY

N= 118

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE K-4

SENSING TYPES		INTUITIVE TYPES		
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING	
I S T J N= 10 %= 8.47 I= 1.93"	I S F J N= 18 %=15.25 I= 1.58"	I N F J N= 9 %= 7.63 I= 1.43	I N T J N= 5 %= 4.24 I= 1.78	JUDGING INTROVERTS
I S T P N= 3 %= 2.54 I= 1.64	I S F P N= 4 %= 3.39 I= 0.71	I N F P N= 7 %= 5.93 I= 0.67	I N T P N= 5 %= 4.24 I= 0.99	PERCEPTIVES INTROVERTS
E S T P N= 2 %= 1.69 I= 1.30	E S F P N= 2 %= 1.69 I= 0.43	E N F P N= 14 %=11.86 I= 0.51#	E N T P N= 5 %= 4.24 I= 1.78	PERCEPTIVES EXTRAVERTS
E S T J N= 6 %= 5.08 I= 1.07	E S F J N= 13 %=11.02 I= 1.09	E N F J N= 4 %= 3.39 I= 0.47	E N T J N= 11 %= 9.32 I= 1.57	JUDGING EXTRAVERTS

	N	%	I
E	57	48.31	0.82"
I	61	51.69	1.26"
S	58	49.15	1.22"
N	60	50.85	0.85"
T	47	39.83	1.48*
F	71	60.17	0.82*
J	76	64.41	1.29*
P	42	35.59	0.71*
IJ	42	35.59	1.64*
IP	19	16.10	0.83
EP	23	19.49	0.63#
EJ	34	28.81	1.03
ST	21	17.80	1.48"
SF	37	31.36	1.10
NF	34	28.81	0.65*
NT	26	22.03	1.47"
SJ	47	39.83	1.38#
SP	11	9.32	0.81
NP	31	26.27	0.68#
NJ	29	24.58	1.17
TJ	32	27.12	1.55#
TP	15	12.71	1.34
FP	27	22.88	0.56*
FJ	44	37.29	1.15
IN	26	22.03	1.06
EN	34	28.81	0.74"
IS	35	29.66	1.46#
ES	23	19.49	0.97

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
- (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS AND PRACTITIONERS IN OCCUPATIONAL THERAPY
BASE TOTAL N = 841. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

5.42	4.99	1.40	0.18
0.41	0.50	1.41	0.99
0.99	0.21	5.88	0.18
0.03	0.13	0.09	2.80

E	6.31	IJ	15.43	SJ	7.99	IN	0.13
I	6.31	IP	0.95	SP	0.66	EN	5.72
		EP	8.23	NP	8.86	IS	7.37
S	4.34	EJ	0.04	NJ	1.10	ES	0.03
N	4.34						
		ST	4.35	TJ	8.84		
T	11.48	SF	0.58	TP	1.63		
F	11.48	NF	13.83	FP	17.99		
		NT	5.36	FJ	1.53		
J	11.68						
P	11.68						

SOURCE OF DATA:

POLLY V. BROWN-KAHLER
DOCTORAL DISSERTATION
UNIV. OF FLORIDA, 1973
TABLE PREPARED FOR
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

GROUP
TABULATED:

FLORIDA OCCUPATIONAL
THERAPISTS
EMPLOYED IN
OCCUPATIONAL THERAPY

N= 75

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE. I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE K-5

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 8 %=10.67 I= 1.26	I S F J N= 8 %=10.67 I= 0.70	I N F J N= 6 %= 8.00 I= 1.05	I N T J N= 4 %= 5.33 I= 1.26	JUDGING INTROVERTS
I S T P N= 3 %= 4.00 I= 1.57	I S F P N= 3 %= 4.00 I= 1.18	I N F P N= 5 %= 6.67 I= 1.12	I N T P N= 4 %= 5.33 I= 1.26	PERCEPTIVES INTROVERTS
E S T P N= 1 %= 1.33 I= 0.79	E S F P N= 1 %= 1.33 I= 0.79	E N F P N= 8 %=10.67 I= 0.90	E N T P N= 3 %= 4.00 I= 0.94	PERCEPTIVES EXTRAVERTS
E S T J N= 6 %= 8.00 I= 1.57	E S F J N= 5 %= 6.67 I= 0.61	E N F J N= 3 %= 4.00 I= 1.18	E N T J N= 7 %= 9.33 I= 1.00	JUDGING EXTRAVERTS

	N	%	I
E	34	45.33	0.94
I	41	54.67	1.06
S	35	46.67	0.95
N	40	53.33	1.05
T	36	48.00	1.21"
F	39	52.00	0.86"
J	47	62.67	0.97
P	28	37.33	1.05
IJ	26	34.67	0.97
IP	15	20.00	1.24
EP	13	17.33	0.89
EJ	21	28.00	0.97
ST	18	24.00	1.35"
SF	17	22.67	0.72#
NF	22	29.33	1.02
NT	18	24.00	1.09
SJ	27	36.00	0.90
SP	8	10.67	1.14
NP	20	26.67	1.02
NJ	20	26.67	1.09
TJ	25	33.33	1.23"
TP	11	14.67	1.15
FP	17	22.67	0.99
FJ	22	29.33	0.79"
IN	19	25.33	1.15
EN	21	28.00	0.97
IS	22	29.33	0.99
ES	13	17.33	0.89

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
BROWN-KAHLER SAMPLE OF FLORIDA OCCUPATIONAL THERAPISTS
BASE TOTAL N = 118. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.32	3.35	1.00	0.65
0.30	1.00	0.72	0.65
1.00	1.00	0.28	1.00
0.08	0.07	1.00	1.00

E	0.73	IJ	0.08	SJ	1.26	IN	1.30
I	0.73	IP	0.19	SP	0.54	EN	0.07
S	0.51	EP	0.61	NP	0.02	IS	0.01
N	0.51	EJ	0.07	NJ	0.49	ES	0.61
T	5.73	ST	0.02	TJ	4.02		
F	5.73	SF	7.22	TP	0.57		
J	0.27	NF	0.03	FP	0.01		
P	0.27	NT	0.46	FJ	5.57		

Physical Therapy

Table Number	Name of Group Tabulated	Number in Group	Compared to Base
L 1	All Students and Practitioners	1,246	32,271
L 2	All Students	1,091	6,738
L 3	Students for Whom Sex is Known	459	1,091
L 4	Physical Therapy Students: Males	98	3,907
L 5	Physical Therapy Students: Females	361	2,831
L 6	Physical Therapy Students: 2-Year Programs	73	1,091
L 7	Physical Therapy Students: Baccalaureate Programs	362	1,091
L 8	Physical Therapists	155	1,246
L 9	Physical Therapists: Males	41	155
L 10	Physical Therapists: Females	112	155
L 11	Physical Therapists: Bachelor's or Graduate Degree	93	155
L 12	Physical Therapy Assistants	93	1,246

```
SOURCE OF DATA:                       GROUP                 MBTI TYPE TABLE
                                    TABULATED:          CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS            COMPOSITE OF
 HEW CONTRACT 231-76-0051          STUDENTS AND         LEGEND: % = PERCENT OF
 AMSA FOUNDATION - CAPT          PRACTITIONERS IN       TOTAL CHOOSING THIS GROUP
                                 PHYSICAL THERAPY       WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                  I = SELFSELECTION INDEX;
                                                        RATIO OF PERCENT OF TYPE
                                     N= 1246            IN GROUP TO % IN SAMPLE.
 TABLE L-1

       SENSING TYPES             INTUITIVE TYPES
 WITH        WITH          WITH         WITH                             N     %       I
 THINKING    FEELING       FEELING      THINKING
-------------------------------------------------------          E     667  53.53   1.02
| I S T J   | I S F J    | I N F J    | I N T J    |  J          I     579  46.47   0.98
|           |            |            |            |  U
|           |            |            |            |  D          S     699  56.10   1.09*
| N= 115    | N= 121     | N=  66     | N=  27     |  G          N     547  43.90   0.90*
|           |            |            |            |  I
| %= 9.23   | %= 9.71    | %= 5.30    | %= 2.17    |  N  I       T     355  28.49   0.78*
|           |            |            |            |  G  N       F     891  71.51   1.12*
| I= 1.10   | I= 0.92    | I= 0.99    | I= 0.53*   |     T
|           |            |            |            |     R       J     693  55.62   0.94#
-------------------------------------------------------     O       P     553  44.38   1.09#
| I S T P   | I S F P    | I N F P    | I N T P    |     V
|           |            |            |            |     E       IJ    329  26.40   0.93
|           |            |            |            |     R       IP    250  20.06   1.04
| N=  42    | N=  75     | N= 112     | N=  21     |     T
|           |            |            |            |     S       EP    303  24.32   1.13"
| %= 3.37   | %= 6.02    | %= 8.99    | %= 1.69    |  P          EJ    364  29.21   0.95
|           |            |            |            |  E
| I= 1.44"  | I= 1.32"   | I= 1.03    | I= 0.46*   |  R          ST    245  19.66   0.97
|           |            |            |            |  C          SF    454  36.44   1.17*
-------------------------------------------------------  E
| E S T P   | E S F P    | E N F P    | E N T P    |  P          NF    437  35.07   1.07
|           |            |            |            |  T          NT    110   8.83   0.55*
|           |            |            |            |  I
| N=  24    | N=  88     | N= 159     | N=  32     |  V          SJ    470  37.72   0.99
|           |            |            |            |  E          SP    229  18.38   1.37*
| %= 1.93   | %= 7.06    | %=12.76    | %= 2.57    |  S  E
|           |            |            |            |     X       NP    324  26.00   0.95
| I= 1.00   | I= 1.53*   | I= 1.13    | I= 0.71"   |     T       NJ    223  17.90   0.84#
|           |            |            |            |     R
-------------------------------------------------------     A       TJ    236  18.94   0.77*
| E S T J   | E S F J    | E N F J    | E N T J    |  J  V       TP    119   9.55   0.82"
|           |            |            |            |  U  E
|           |            |            |            |  D  R       FP    434  34.83   1.19*
| N=  64    | N= 170     | N= 100     | N=  30     |  G  T       FJ    457  36.68   1.07
|           |            |            |            |  I  S
| %= 5.14   | %=13.64    | %= 8.03    | %= 2.41    |  N          IN    226  18.14   0.83#
|           |            |            |            |  G          EN    321  25.76   0.96
| I= 0.66*  | I= 1.21#   | I= 1.11    | I= 0.53*   |
|           |            |            |            |             IS    353  28.35   1.10"
-------------------------------------------------------             ES    346  27.77   1.09

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
         #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
         *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
   (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COMPOSITE OF STUDENTS & PRACTITIONERS IN ALL HEALTH AND HEALTH RELATED FIELDS.
   BASE TOTAL N = 32271. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER              E    0.70    IJ    2.27    SJ    0.03    IN  10.45
                                      I    0.70    IP    0.43    SP   27.22    EN   0.68
  1.29     0.90     0.01    11.95                  EP    6.21    NP    1.24    IS   4.40
                                      S   11.58    EJ    1.72    NJ    8.68    ES   3.22
  5.99     6.33     0.10    14.69     N   11.58
                                                   ST    0.39    TJ   23.46
  0.00    17.66     2.68     4.13     T   34.38    SF   17.82    TP    5.20
                                      F   34.38    NF    3.42    FP   19.59
 12.33     6.99     1.16    14.02                  NT   49.17    FJ    2.88
                                      J    6.82
                                      P    6.82
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

COMPOSITE OF
STUDENTS IN

PHYSICAL THERAPY

N= 1091

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE L-2

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 95 %= 8.71 I= 1.42#	I S F J N= 99 %= 9.07 I= 1.24"	I N F J N= 60 %= 5.50 I= 1.83*	I N T J N= 26 %= 2.38 I= 1.04	JUDGING INTROVERTS
I S T P N= 34 %= 3.12 I= 0.80	I S F P N= 63 %= 5.77 I= 0.75"	I N F P N= 93 %= 8.52 I= 0.91	I N T P N= 18 %= 1.65 I= 0.41*	PERCEPTIVES INTROVERTS
E S T P N= 21 %= 1.92 I= 0.44*	E S F P N= 80 %= 7.33 I= 0.76"	E N F P N= 142 %=13.02 I= 1.01	E N T P N= 27 %= 2.47 I= 0.54#	PERCEPTIVES EXTRAVERTS
E S T J N= 61 %= 5.59 I= 0.79	E S F J N= 156 %=14.30 I= 1.33*	E N F J N= 88 %= 8.07 I= 1.93*	E N T J N= 28 %= 2.57 I= 0.93	JUDGING EXTRAVERTS

	N	%	I
E	603	55.27	0.98
I	488	44.73	1.02
S	609	55.82	0.98
N	482	44.18	1.03
T	310	28.41	0.81*
F	781	71.59	1.10*
J	613	56.19	1.29*
P	478	43.81	0.78*
IJ	280	25.66	1.37*
IP	208	19.07	0.76*
EP	270	24.75	0.79*
EJ	333	30.52	1.23*
ST	211	19.34	0.90
SF	398	36.48	1.03
NF	383	35.11	1.19*
NT	99	9.07	0.67*
SJ	411	37.67	1.20*
SP	198	18.15	0.71*
NP	280	25.66	0.83*
NJ	202	18.52	1.51*
TJ	210	19.25	1.06
TP	100	9.17	0.54*
FP	378	34.65	0.87#
FJ	403	36.94	1.46*
IN	197	18.06	0.97
EN	285	26.12	1.07
IS	291	26.67	1.06
ES	318	29.15	0.91

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
BASE TOTAL N = 6738. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

10.15	4.07	17.89	0.04
1.54	5.14	0.76	14.86
14.86	6.09	0.01	9.85
3.13	11.89	31.41	0.13

E	0.36	IJ	28.14	SJ	17.64	IN	0.23
I	0.36	IP	17.92	SP	28.76	EN	1.56
S	0.50	EP	20.22	NP	11.75	IS	1.26
N	0.50	EJ	16.51	NJ	32.40	ES	3.25
T	18.66	ST	2.60	TJ	0.64		
F	18.66	SF	0.42	TP	41.81		
J	60.86	NF	14.34	FP	9.79		
P	60.86	NT	17.10	FJ	64.96		

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

PHYSICAL THERAPY
STUDENTS
FOR WHOM
SEX IS KNOWN

N= 459

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE L-3

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 33 %= 7.19 I= 0.83	I S F J N= 55 %=11.98 I= 1.32#	I N F J N= 32 %= 6.97 I= 1.27	I N T J N= 12 %= 2.61 I= 1.10	JUDGING	INTROVERTS
I S T P N= 11 %= 2.40 I= 0.77	I S F P N= 37 %= 8.06 I= 1.40#	I N F P N= 42 %= 9.15 I= 1.07	I N T P N= 9 %= 1.96 I= 1.19	PERCEPTIVES	
E S T P N= 10 %= 2.18 I= 1.13	E S F P N= 31 %= 6.75 I= 0.92	E N F P N= 60 %=13.07 I= 1.00	E N T P N= 14 %= 3.05 I= 1.23		EXTRAVERTS
E S T J N= 18 %= 3.92 I= 0.70"	E S F J N= 52 %=11.33 I= 0.79"	E N F J N= 31 %= 6.75 I= 0.84	E N T J N= 12 %= 2.61 I= 1.02	JUDGING	

	N	%	I
E	228	49.67	0.90#
I	231	50.33	1.13#
S	247	53.81	0.96
N	212	46.19	1.05
T	119	25.93	0.91
F	340	74.07	1.03
J	245	53.38	0.95
P	214	46.62	1.06
IJ	132	28.76	1.12"
IP	99	21.57	1.13
EP	115	25.05	1.01
EJ	113	24.62	0.81*
ST	72	15.69	0.81#
SF	175	38.13	1.05
NF	165	35.95	1.02
NT	47	10.24	1.13
SJ	158	34.42	0.91
SP	89	19.39	1.07
NP	125	27.23	1.06
NJ	87	18.95	1.02
TJ	75	16.34	0.85"
TP	44	9.59	1.05
FP	170	37.04	1.07
FJ	170	37.04	1.00
IN	95	20.70	1.15
EN	117	25.49	0.98
IS	136	29.63	1.11
ES	111	24.18	0.83#

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
# IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
STUDENTS IN PHYSICAL THERAPY
BASE TOTAL N = 1091. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

2.30	8.12	3.30	0.18
1.36	7.61	0.40	0.47
0.27	0.39	0.00	1.09
4.18	5.70	1.84	0.01

E	10.04	IJ	3.97	SJ	3.56	IN	3.73
I	10.04	IP	3.22	SP	0.82	EN	0.16
		EP	0.04	NP	1.02	IS	3.54
S	1.30	EJ	13.02	NJ	0.10	ES	9.46
N	1.30						
		ST	6.78	TJ	4.31		
T	2.41	SF	0.93	TP	0.17		
F	2.41	NF	0.25	FP	2.00		
		NT	1.30	FJ	0.00		
J	2.54						
P	2.54						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE L-4

GROUP
TABULATED:

PHYSICAL THERAPY
STUDENTS
MALES

N= 98

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX;
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

SENSING TYPES		INTUITIVE TYPES		
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING	
I S T J N= 12 %=12.24 I= 1.50	I S F J N= 11 %=11.22 I= 1.75	I N F J N= 10 %=10.20 I= 3.22*	I N T J N= 2 %= 2.04 I= 0.64	JUDGING INTROVERTS
I S T P N= 4 %= 4.08 I= 0.76	I S F P N= 6 %= 6.12 I= 0.80	I N F P N= 10 %=10.20 I= 1.18	I N T P N= 5 %= 5.10 I= 1.00	PERCEPTIVES
E S T P N= 3 %= 3.06 I= 0.55	E S F P N= 3 %= 3.06 I= 0.38	E N F P N= 12 %=12.24 I= 1.28	E N T P N= 4 %= 4.08 I= 0.75	EXTRAVERTS
E S T J N= 4 %= 4.08 I= 0.45	E S F J N= 5 %= 5.10 I= 0.64	E N F J N= 5 %= 5.10 I= 1.57	E N T J N= 2 %= 2.04 I= 0.59	JUDGING

	N	%	I
E	38	38.78	0.74#
I	60	61.22	1.28#
S	48	48.98	0.84
N	50	51.02	1.22
T	36	36.73	0.81
F	62	63.27	1.16
J	51	52.04	1.16
P	47	47.96	0.87
IJ	35	35.71	1.71*
IP	25	25.51	0.95
EP	22	22.45	0.79
EJ	16	16.33	0.69
ST	23	23.47	0.83
SF	25	25.51	0.85
NF	37	37.76	1.53#
NT	13	13.27	0.77
SJ	32	32.65	1.03
SP	16	16.33	0.62"
NP	31	31.63	1.10
NJ	19	19.39	1.48
TJ	20	20.41	0.85
TP	16	16.33	0.76
FP	31	31.63	0.94
FJ	31	31.63	1.52#
IN	27	27.55	1.37
EN	23	23.47	1.08
IS	33	33.67	1.22
ES	15	15.31	0.50#

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
MALE HIGH SCHOOL JUNIORS AND SENIORS IN THE CAPT DATA BANK
BASE TOTAL N = 3907. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

2.13	3.65	14.61	0.58
0.65	0.33	0.30	0.99
0.37	0.08	0.80	0.65
0.10	0.35	0.37	0.58

E	7.00	IJ	12.51	SJ	0.05	IN	3.26
I	7.00	IP	0.08	SP	5.15	EN	0.17
S	3.30	EP	1.73	NP	0.38	IS	1.76
N	3.30	EJ	2.94	NJ	3.31	ES	10.56
T	2.92	ST	1.05	TJ	0.65		
F	2.92	SF	0.91	TP	1.52		
J	2.09	NF	8.85	FP	0.20		
P	2.09	NT	1.07	FJ	6.81		

```
SOURCE OF DATA:                          GROUP                    MBTI TYPE TABLE
                                       TABULATED:              CENTER FOR APPLICATIONS
MARY H. MCCAULLEY, PH.D.                                        OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS             PHYSICAL THERAPY
HEW CONTRACT 231-76-0051                STUDENTS               LEGEND: % = PERCENT OF
 AMSA FOUNDATION - CAPT                 FEMALES                TOTAL CHOOSING THIS GROUP
                                                               WHO FALL INTO THIS TYPE.
TABLE CREATED 7/31/77                                          I = SELFSELECTION INDEX:
                                                               RATIO OF PERCENT OF TYPE
                                         N=  361               IN GROUP TO % IN SAMPLE.
TABLE L-5

       SENSING TYPES              INTUITIVE TYPES
WITH          WITH          WITH          WITH                                 N      %       I
THINKING      FEELING       FEELING       THINKING
--------------------------------------------------------------           E     190  52.63   0.85*
| I S T J    | I S F J    | I N F J    | I N T J    |   J           I     171  47.37   1.24*
|            |            |            |            |   U
| N=  21     | N=  44     | N=  22     | N=  10     |   D           S     199  55.12   1.00
|            |            |            |            |   G           N     162  44.88   1.00
| %= 5.82    | %=12.19    | %= 6.09    | %= 2.77    |   I
|            |            |            |            |   N  I        T      83  22.99   1.10
| I= 1.72"   | I= 1.41"   | I= 2.18*   | I= 2.70#   |   G  N        F     278  77.01   0.97
|            |            |            |            |      T
--------------------------------------------------------------       R        J     194  53.74   1.28*
| I S T P    | I S F P    | I N F P    | I N T P    |      O        P     167  46.26   0.80*
|            |            |            |            |      V
| N=   7     | N=  31     | N=  32     | N=   4     |      E        IJ     97  26.87   1.70*
|            |            |            |            |      R        IP     74  20.50   0.91
| %= 1.94    | %= 8.59    | %= 8.86    | %= 1.11    |      T
|            |            |            |            |   P  S        EP     93  25.76   0.72*
| I= 1.06    | I= 1.11    | I= 0.86    | I= 0.44    |   E           EJ     97  26.87   1.03
|            |            |            |            |   R
--------------------------------------------------------------   C           ST     49  13.57   1.11
| E S T P    | E S F P    | E N F P    | E N T P    |   E           SF    150  41.55   0.96
|            |            |            |            |   P
| N=   7     | N=  28     | N=  48     | N=  10     |   T           NF    128  35.46   0.98
|            |            |            |            |   I           NT     34   9.42   1.10
| %= 1.94    | %= 7.76    | %=13.30    | %= 2.77    |   V
|            |            |            |            |   E           SJ    126  34.90   1.13
| I= 0.68    | I= 0.64"   | I= 0.76"   | I= 0.85    |   S           SP     73  20.22   0.82
|            |            |            |            |      E
--------------------------------------------------------------       X        NP     94  26.04   0.78#
| E S T J    | E S F J    | E N F J    | E N T J    |   J  T        NJ     68  18.84   1.70*
|            |            |            |            |   U  R
| N=  14     | N=  47     | N=  26     | N=  10     |   D  A        TJ     55  15.24   1.47#
|            |            |            |            |   G  V        TP     28   7.76   0.74
| %= 3.88    | %=13.02    | %= 7.20    | %= 2.77    |   I  E
|            |            |            |            |   N  R        FP    139  38.50   0.81#
| I= 0.93    | I= 0.89    | I= 1.32    | I= 1.54    |   G  T        FJ    139  38.50   1.22#
|            |            |            |            |      S
--------------------------------------------------------------                IN     68  18.84   1.13
                                                                              EN     94  26.04   0.93

                                                                              IS    103  28.53   1.32#
                                                                              ES     96  26.59   0.79#

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. >  3.8:
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. >  6.6:
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
 (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   FEMALE HIGH SCHOOL JUNIORS AND SENIORS ON THE CAPT DATA BANK
   BASE TOTAL N =  2831. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER             E  11.06    IJ  27.59    SJ   2.51    IN   1.07
                                     I  11.06    IP   0.72    SP   3.23    EN   0.62
 5.34    4.97    11.40    8.08                   EP  13.82    NP   8.30    IS   8.81
                                     S   0.00    EJ   0.11    NJ  18.23    ES   7.32
 0.02    0.29     0.77    0.13       N   0.00
                                                 ST   0.51    TJ   7.74
 1.02    5.76     3.98    0.2        T   0.89    SF   0.30    TP   2.56
                                     F   0.89    NF   0.06    FP  10.76
 0.07    0.67     1.79    1.6                    NT   0.28    FJ   7.17
                                     J  18.31
                                     P  18.31
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

PHYSICAL THERAPY
STUDENTS IN
2-YEAR PROGRAMS

N= 73

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX;
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

TABLE L-6

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 4 %= 5.48 I= 0.63	I S F J N= 8 %=10.96 I= 1.21	I N F J N= 4 %= 5.48 I= 1.00	I N T J N= 2 %= 2.74 I= 1.15	JUDGING	INTROVERTS
I S T P N= 1 %= 1.37 I= 0.44	I S F P N= 11 %=15.07 I= 2.61*	I N F P N= 10 %=13.70 I= 1.61	I N T P N= 1 %= 1.37 I= 0.83	PERCEPTIVES	INTROVERTS
E S T P N= 0 %= 0.0 I= 0.0	E S F P N= 6 %= 8.22 I= 1.12	E N F P N= 5 %= 6.85 I= 0.53	E N T P N= 2 %= 2.74 I= 1.11	PERCEPTIVES	EXTRAVERTS
E S T J N= 3 %= 4.11 I= 0.74	E S F J N= 6 %= 8.22 I= 0.57	E N F J N= 5 %= 6.85 I= 0.85	E N T J N= 5 %= 6.85 I= 2.67"	JUDGING	EXTRAVERTS

	N	%	I
E	32	43.84	0.79"
I	41	56.16	1.26"
S	39	53.42	0.96
N	34	46.58	1.05
T	18	24.66	0.87
F	55	75.34	1.05
J	37	50.68	0.90
P	36	49.32	1.13
IJ	18	24.66	0.96
IP	23	31.51	1.65#
EP	13	17.81	0.72
EJ	19	26.03	0.85
ST	8	10.96	0.57
SF	31	42.47	1.16
NF	24	32.88	0.94
NT	10	13.70	1.51
SJ	21	28.77	0.76
SP	18	24.66	1.36
NP	18	24.66	0.96
NJ	16	21.92	1.18
TJ	14	19.18	1.00
TP	4	5.48	0.60
FP	32	43.84	1.27
FJ	23	31.51	0.85
IN	17	23.29	1.29
EN	17	23.29	0.89
IS	24	32.88	1.23
ES	15	20.55	0.70

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
STUDENTS IN PHYSICAL THERAPY
BASE TOTAL N = 1091. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

$\underline{0.39}$	0.34	$\underline{0.99}$	$\underline{0.99}$
$\underline{0.50}$	12.42	2.69	$\underline{0.99}$
$\underline{0.39}$	0.09	$\underline{0.11}$	$\underline{0.99}$
$\underline{0.62}$	2.36	$\underline{0.82}$	$\underline{0.03}$

E	4.14	IJ	0.04	SJ	2.64	IN	1.45
I	4.14	IP	7.85	SP	2.23	EN	0.33
		EP	2.02	NP	0.04	IS	1.54
S	0.18	EJ	0.75	NJ	0.60	ES	2.80
N	0.18						
		ST	3.52	TJ	0.00		
T	0.54	SF	1.21	TP	$\underline{0.30}$		
F	0.54	NF	0.17	FP	2.92		
		NT	2.03	FJ	0.99		
J	0.96						
P	0.96						

```
SOURCE OF DATA:                      GROUP                     MBTI TYPE TABLE
                                   TABULATED:           CENTER FOR APPLICATIONS
MARY H. MCCAULLEY, PH.D.                                  OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS          PHYSICAL THERAPY
HEW CONTRACT 231-76-0051          STUDENTS IN           LEGEND: % = PERCENT OF
 AMSA FOUNDATION - CAPT          BACCALAUREATE          TOTAL CHOOSING THIS GROUP
                                   PROGRAMS             WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                  I = SELFSELECTION INDEX;
                                                        RATIO OF PERCENT OF TYPE
                                   N=   362             IN GROUP TO % IN SAMPLE.
 TABLE L-7

     SENSING TYPES              INTUITIVE TYPES
WITH          WITH          WITH          WITH                        N      %       I
THINKING      FEELING       FEELING       THINKING
-----------------------------------------------------            E   190  52.49   0.95
| I S T J    | I S F J    | I N F J    | I N T J    |  J         I   172  47.51   1.06
|            |            |            |            |  U
| N=  27     | N=  45     | N=  22     | N=   6     |  D         S   198  54.70   0.98
|            |            |            |            |  G         N   164  45.30   1.03
| %= 7.46    | %=12.43    | %= 6.08    | %= 1.66    |  I
|            |            |            |            |  N I       T    93  25.69   0.90
| I= 0.86    | I= 1.37#   | I= 1.11    | I= 0.70    |  G N       F   269  74.31   1.04
|            |            |            |            |    T
-----------------------------------------------------    R       J   192  53.04   0.94
| I S T P    | I S F P    | I N F P    | I N T P    |    O       P   170  46.96   1.07
|            |            |            |            |    V
| N=  10     | N=  24     | N=  30     | N=   8     |    E       IJ  100  27.62   1.08
|            |            |            |            |    R       IP   72  19.89   1.04
| %= 2.76    | %= 6.63    | %= 8.29    | %= 2.21    |    T
|            |            |            |            |    S       EP   98  27.07   1.09
| I= 0.89    | I= 1.15    | I= 0.97    | I= 1.34    |  P         EJ   92  25.41   0.83#
|            |            |            |            |  E
-----------------------------------------------------  R         ST   60  16.57   0.86
| E S T P    | E S F P    | E N F P    | E N T P    |  C         SF  138  38.12   1.04
|            |            |            |            |  E
| N=   8     | N=  24     | N=  54     | N=  12     |  P         NF  131  36.19   1.03
|            |            |            |            |  T         NT   33   9.12   1.00
| %= 2.21    | %= 6.63    | %=14.92    | %= 3.31    |  I
|            |            |            |            |  V         SJ  132  36.46   0.97
| I= 1.15    | I= 0.90    | I= 1.15    | I= 1.34    |  E         SP   66  18.23   1.00
|            |            |            |            |  S E
-----------------------------------------------------    X       NP  104  28.73   1.12
| E S T J    | E S F J    | E N F J    | E N T J    |    T       NJ   60  16.57   0.90
|            |            |            |            |    R
| N=  15     | N=  45     | N=  25     | N=   7     |    A       TJ   55  15.19   0.79"
|            |            |            |            |  J V       TP   38  10.50   1.15
| %= 4.14    | %=12.43    | %= 6.91    | %= 1.93    |  U E
|            |            |            |            |  D R       FP  132  36.46   1.05
| I= 0.74    | I= 0.87    | I= 0.86    | I= 0.75    |  G T       FJ  137  37.85   1.02
|            |            |            |            |  I S
-----------------------------------------------------  N         IN   66  18.23   1.01
                                                       G         EN   98  27.07   1.04

                                                                 IS  106  29.28   1.10
                                                                 ES   92  25.41   0.87

  NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
       " IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
       # IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
       * IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

  BASE POPULATION USED IN CALCULATING SELECTION RATIO:
  STUDENTS IN PHYSICAL THERAPY
  BASE TOTAL N =  1091. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

       TYPE TABLE ORDER            E   1.70   IJ   1.09   SJ   0.34   IN   0.01
                                   I   1.70   IP   0.24   SP   0.00   EN   0.25
 1.06     7.40     0.35     1.23              EP   1.57   NP   2.67   IS   1.89
                                   S   0.28   EJ   6.67   NJ   1.35   ES   3.66
 0.22     0.73     0.04     1.05   N   0.28
                                              ST   2.66   TJ   5.73
 0.23     0.39     1.73     1.58   T   1.98   SF   0.63   TP   1.15
                                   F   1.98   NF   0.28   FP   0.79
 2.15     1.54     0.98     0.87                NT   0.00   FJ   0.19
                                   J   2.18
                                   P   2.18
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE L-8

GROU TABULA D:

PHYSICAL THERAPISTS

N= 155

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

SENSING TYPES		INTUITIVE TYPES		
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING	
I S T J N= 20 %=12.90 I= 1.40	I S F J N= 22 %=14.19 I= 1.46"	I N F J N= 6 %= 3.87 I= 0.73	I N T J N= 1 %= 0.65 I= 0.30	JUDGING INTROVERTS
I S T P N= 8 %= 5.16 I= 1.53	I S F P N= 12 %= 7.74 I= 1.29	I N F P N= 19 %=12.26 I= 1.36	I N T P N= 3 %= 1.94 I= 1.15	PERCEPTIVES INTROVERTS
E S T P N= 3 %= 1.94 I= 1.00	E S F P N= 8 %= 5.16 I= 0.73	E N F P N= 17 %=10.97 I= 0.86	E N T P N= 5 %= 3.23 I= 1.26	PERCEPTIVES EXTRAVERTS
E S T J N= 3 %= 1.94 I= 0.38	E S F J N= 14 %= 9.03 I= 0.66	E N F J N= 12 %= 7.74 I= 0.96	E N T J N= 2 %= 1.29 I= 0.54	JUDGING EXTRAVERTS

	N	%	I
E	64	41.29	0.77#
I	91	58.71	1.26#
S	90	58.06	1.04
N	65	41.94	0.96
T	45	29.03	1.02
F	110	70.97	0.99
J	80	51.61	0.93
P	75	48.39	1.09
IJ	49	31.61	1.20
IP	42	27.10	1.35"
EP	33	21.29	0.88
EJ	31	20.00	0.68#
ST	34	21.94	1.12
SF	56	36.13	0.99
NF	54	34.84	0.99
NT	11	7.10	0.80
SJ	59	38.06	1.01
SP	31	20.00	1.09
NP	44	28.39	1.09
NJ	21	13.55	0.76
TJ	26	16.77	0.89
TP	19	12.26	1.28
FP	56	36.13	1.04
FJ	54	34.84	0.95
IN	29	18.71	1.03
EN	36	23.23	0.90
IS	62	40.00	1.41*
ES	28	18.06	0.65#

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS AND PRACTITIONERS IN PHYSICAL THERAPY
BASE TOTAL N = 1246. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

2.85	4.06	0.72	0.24
1.74	0.93	2.31	0.99
0.99	0.97	0.51	0.58
0.08	3.19	0.02	0.41

E	10.66	IJ	2.47	SJ	0.01	IN	0.04
I	10.66	IP	5.46	SP	0.31	EN	0.60
S	0.28	EP	0.88	NP	0.52	IS	11.37
N	0.28	EJ	7.27	NJ	2.28	ES	8.31
T	0.03	ST	0.58	TJ	0.54		
F	0.03	SF	0.01	TP	1.50		
J	1.15	NF	0.00	FP	0.13		
P	1.15	NT	0.66	FJ	0.26		

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

PHYSICAL THERAPISTS
MALES

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

N= 41

TABLE L-9

SENSING TYPES		INTUITIVE TYPES			
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING		
I S T J N= 8 %= 19.51 I= 1.51	I S F J N= 4 %= 9.76 I= 0.69	I N F J N= 1 %= 2.44 I= 0.63	I N T J N= 0 %= 0.0 I= 0.0	JUDGING	INTROVERTS
I S T P N= 3 %= 7.32 I= 1.42	I S F P N= 3 %= 7.32 I= 0.95	I N F P N= 4 %= 9.76 I= 0.80	I N T P N= 2 %= 4.88 I= 2.52	PERCEPTIVES	
E S T P N= 2 %= 4.88 I= 2.52	E S F P N= 0 %= 0.0 I= 0.0	E N F P N= 4 %= 9.76 I= 0.89	E N T P N= 3 %= 7.32 I= 2.27		EXTRAVERTS
E S T J N= 0 %= 0.0 I= 0.0	E S F J N= 2 %= 4.88 I= 0.54	E N F J N= 3 %= 7.32 I= 0.95	E N T J N= 2 %= 4.88 I= 3.78	JUDGING	

	N	%	I
E	16	39.02	0.95
I	25	60.98	1.04
S	22	53.66	0.92
N	19	46.34	1.11
T	20	48.78	1.68#
F	21	51.22	0.72#
J	20	48.78	0.95
P	21	51.22	1.06
IJ	13	31.71	1.00
IP	12	29.27	1.08
EP	9	21.95	1.03
EJ	7	17.07	0.85
ST	13	31.71	1.45
SF	9	21.95	0.61"
NF	12	29.27	0.84
NT	7	17.07	2.41#
SJ	14	34.15	0.90
SP	8	19.51	0.98
NP	13	31.71	1.12
NJ	6	14.63	1.08
TJ	10	24.39	1.45
TP	10	24.39	1.99#
FP	11	26.83	0.74
FJ	10	24.39	0.70
IN	7	17.07	0.91
EN	12	29.27	1.26
IS	18	43.90	1.10
ES	4	9.76	0.54

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
PHYSICAL THERAPISTS
BASE TOTAL N = 155. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

2.17	0.44	0.69	1.00
0.68	1.00	0.60	0.17
0.17	0.11	1.00	0.12
0.57	0.36	1.00	0.07

E	0.12	IJ	0.00	SJ	0.36	IN	0.10
I	0.12	IP	0.13	SP	0.01	EN	1.14
S	0.44	EP	0.01	NP	0.30	IS	0.35
N	0.44	EJ	0.30	NJ	0.06	ES	0.15
T	10.55	ST	3.11	TJ	2.32		
F	10.55	SF	4.86	TP	7.63		
J	0.18	NF	0.76	FP	2.09		
P	0.18	NT	0.01	FJ	2.68		

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

PHYSICAL THERAPISTS
FEMALES

N= 112

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX;
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

TABLE L-10

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 12 %=10.71 I= 0.83	I S F J N= 18 %=16.07 I= 1.13	I N F J N= 5 %= 4.46 I= 1.15	I N T J N= 1 %= 0.89 I= 1.38	JUDGING INTROVERTS
I S T P N= 5 %= 4.46 I= 0.86	I S F P N= 9 %= 8.04 I= 1.04	I N F P N= 14 %=12.50 I= 1.02	I N T P N= 1 %= 0.89 I= 0.46	PERCEPTIVES
E S T P N= 1 %= 0.89 I= 0.46	E S F P N= 8 %= 7.14 I= 1.38	E N F P N= 12 %=10.71 I= 0.98	E N T P N= 2 %= 1.79 I= 0.55	PERCEPTIVES EXTRAVERTS
E S T J N= 3 %= 2.68 I= 1.38	E S F J N= 12 %=10.71 I= 1.19	E N F J N= 9 %= 8.04 I= 1.04	E N T J N= 0 %= 0.0 I= 0.0	JUDGING

	N	%	I
E	47	41.96	1.02
I	65	58.04	0.99
S	68	60.71	1.05
N	44	39.29	0.94
T	25	22.32	0.77#
F	87	77.68	1.09#
J	60	53.57	1.04
P	52	46.43	0.96
IJ	36	32.14	1.02
IP	29	25.89	0.96
EP	23	20.54	0.96
EJ	24	21.43	1.07
ST	21	18.75	0.85
SF	47	41.96	1.16"
NF	40	35.71	1.03
NT	4	3.57	0.50"_
SJ	45	40.18	1.06
SP	23	20.54	1.03
NP	29	25.89	0.91
NJ	15	13.39	0.99
TJ	16	14.29	0.85
TP	9	8.04	0.66#
FP	43	38.39	1.06
FJ	44	39.29	1.13
IN	21	18.75	1.00
EN	23	20.54	0.88
IS	44	39.29	0.98
ES	24	21.43	1.19

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
PHYSICAL THERAPISTS
BASE TOTAL N = 155. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

1.72	0.32	0.68	1.00
0.69	1.00	1.00	0.19
0.19	0.11	1.00	0.13
0.56	0.35	1.00	0.08

E	0.08	IJ	0.05	SJ	0.77	IN	0.00
I	0.08	IP	0.30	SP	0.07	EN	1.64
		EP	0.14	NP	1.24	IS	0.09
S	1.16	EJ	0.51	NJ	0.01	ES	0.10
N	1.16						
		ST	2.39	TJ	1.79		
T	8.82	SF	5.96	TP	6.69		
F	8.82	NF	0.14	FP	0.90		
		NT	0.01	FJ	3.52		
J	0.62						
P	0.62						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

PHYSICAL THERAPISTS
HAVING
BACHELOR'S OR
GRADUATE DEGREE

N= 93

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE L-11

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 9 %= 9.68 I= 0.75	I S F J N= 15 %=16.13 I= 1.14	I N F J N= 3 %= 3.23 I= 0.83	I N T J N= 1 %= 1.08 I= 1.67	JUDGING INTROVERTS
I S T P N= 6 %= 6.45 I= 1.25	I S F P N= 9 %= 9.68 I= 1.25	I N F P N= 12 %=12.90 I= 1.05	I N T P N= 1 %= 1.08 I= 0.56	PERCEPTIVES
E S T P N= 3 %= 3.23 I= 1.67	E S F P N= 3 %= 3.23 I= 0.62	E N F P N= 12 %=12.90 I= 1.18	E N T P N= 3 %= 3.23 I= 1.00	EXTRAVERTS
E S T J N= 0 %= 0.0 I= 0.0	E S F J N= 7 %= 7.53 I= 0.83	E N F J N= 8 %= 8.60 I= 1.11	E N T J N= 1 %= 1.08 I= 0.83	JUDGING

	N	%	I
E	37	39.78	0.96
I	56	60.21	1.03
S	52	55.91	0.96
N	41	44.09	1.05
T	24	25.81	0.89
F	69	74.19	1.05
J	44	47.31	0.92
P	49	52.69	1.09
IJ	28	30.11	0.95
IP	28	30.11	1.11
EP	21	22.58	1.06
EJ	16	17.20	0.86
ST	18	19.35	0.88
SF	34	36.56	1.01
NF	35	37.63	1.08
NT	6	6.45	0.91
SJ	31	33.33	0.88
SP	21	22.58	1.13
NP	28	30.11	1.06
NJ	13	13.98	1.03
TJ	11	11.83	0.71"
TP	13	13.98	1.14
FP	36	38.71	1.07
FJ	33	35.48	1.02
IN	17	18.28	0.98
EN	24	25.81	1.11
IS	39	41.94	1.05
ES	13	13.98	0.77

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
# IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
PHYSICAL THERAPISTS
BASE TOTAL N = 155. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

2.15	0.72	0.68	1.00
0.48	0.36	0.09	0.56
0.28	0.27	0.44	1.00
0.06	0.64	0.76	1.00

E	0.22	IJ	0.24	SJ	2.21	IN	0.03
I	0.22	IP	1.07	SP	0.97	EN	0.87
S	0.44	EP	0.23	NP	0.34	IS	0.36
N	0.44	EJ	1.14	NJ	0.04	ES	2.62
T	1.17	ST	0.90	TJ	4.07		
F	1.17	SF	0.02	TP	0.64		
J	1.72	NF	0.80	FP	0.67		
P	1.72	NT	0.75	FJ	0.04		

```
SOURCE OF DATA:                              GROUP                   MBTI TYPE TABLE
                                           TABULATED:            CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                         OF PSYCHOLOGICAL TYPE
  AND CTHER CONTRIBUTORS               PHYSICAL THERAPY
 HEW CCNTRACT 231-76-0051                  ASSISTANTS            LEGEND: % = PERCENT OF
  AMSA FCUNDATION - CAPT                                         TOTAL CHOOSING THIS GROUP
                                                                 WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                           I = SELFSELECTION INDEX;
                                                                 RATIO OF PERCENT OF TYPE
                                            N=    93             IN GROUP TO % IN SAMPLE.
 TABLE L-12

      SENSING TYPES             INTUITIVE TYPES
 WITH          WITH          WITH          WITH                            N     %       I
 THINKING      FEELING       FEELING       THINKING
 ----------------------------------------------------------           E    48  51.61   0.96
| I S T J     | I S F J     | I N F J     | I N T J     |  J          I    45  48.39   1.04
|             |             |             |             |  U
|             |             |             |             |  D          S    58  62.37   1.11
| N=    5     | N=    9     | N=    5     | N=    1     |  G          N    35  37.63   0.86
|             |             |             |             |  I
| %= 5.38     | %= 9.68     | %= 5.38     | %= 1.08     |  N  I       T    21  22.58   0.79
|             |             |             |             |  G  N       F    72  77.42   1.08
| I= 0.58     | I= 1.00     | I= 1.01     | I= 0.50     |     T
|             |             |             |             |     R       J    44  47.31   0.85
 ----------------------------------------------------------     O       P    49  52.69   1.19
| I S T P     | I S F P     | I N F P     | I N T P     |     V
|             |             |             |             |     E       IJ   20  21.51   0.81
|             |             |             |             |     R       IP   25  26.88   1.34
| N=    1     | N=   12     | N=   10     | N=    2     |     T
|             |             |             |             |     S       EP   24  25.81   1.06
| %= 1.08     | %=12.90     | %=10.75     | %= 2.15     |  P          EJ   24  25.81   0.88
|             |             |             |             |  E
| I= 0.32     | I= 2.14#    | I= 1.20     | I= 1.28     |  R          ST   12  12.90   0.66
|             |             |             |             |  C          SF   46  49.46   1.36#
 ----------------------------------------------------------  E
| E S T P     | E S F P     | E N F P     | E N T P     |  P          NF   26  27.96   0.80
|             |             |             |             |  T          NT    9   9.68   1.10
|             |             |             |             |  I
| N=    0     | N=   13     | N=    7     | N=    4     |  V          SJ   32  34.41   0.91
|             |             |             |             |  E          SP   26  27.96   1.52"
| %= 0.0      | %=13.98     | %= 7.53     | %= 4.30     |  S  E
|             |             |             |             |     X       NP   23  24.73   0.95
| I= 0.0      | I= 1.98#    | I= 0.59     | I= 1.07     |     T       NJ   12  12.90   0.72
|             |             |             |             |     R
 ----------------------------------------------------------     A       TJ   14  15.05   0.79
| E S T J     | E S F J     | E N F J     | E N T J     |  J  V       TP    7   7.53   0.79
|             |             |             |             |  U  E
|             |             |             |             |  D  R       FP   42  45.16   1.30"
| N=    6     | N=   12     | N=    4     | N=    2     |  G  T       FJ   30  32.26   0.88
|             |             |             |             |  I  S
| %= 6.45     | %=12.90     | %= 4.30     | %= 2.15     |  N          IN   18  19.35   1.07
|             |             |             |             |  G          EN   17  18.28   0.71
| I= 1.26     | I= 0.95     | I= 0.54     | I= 0.89     |
|             |             |             |             |             IS   27  29.03   1.02
 ----------------------------------------------------------             ES   31  33.33   1.20

   NOTE CONCERNING SYMBOLS FCLLOWING THE SELECTION RATIOS:
         "  IMPLIFS SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
         #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
         *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATICN USED IN CALCULATING SELECTION RATIO:
   COMPOSITE CF STUDENTS AND PRACTITIONERS IN PHYSICAL THERAPY
   BASE TOTAL N =  1246. SAMPLE AND BASL ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUAPF OR FISHER'S EXACT PROBABILITY * * * *

         TYPE TABLE ORDER                 E    0.15    IJ   1.24    SJ   0.47    IN   0.10
                                          I    0.15    IP   2.91    SP   6.15    EN   2.94
 0.20      0.00      0.99      0.52                    EP   0.12    NP   0.08    IS   0.02
                                          S    1.60    EJ   0.56    NJ   1.71    ES   1.55
 0.25      8.42      0.38      0.99       N    1.60
                                                       ST   2.91    TJ   0.99
 0.25      7.32      2.47      0.29       T    1.72    SF   7.36    TP   0.48
                                          F    1.72    NF   2.23    FP   4.72
 0.36      0.05      0.23      0.99                    NT   0.09    FJ   0.85
                                          J    2.81
                                          P    2.81
```

Appendix M

Physician Extender Services

Table Number	Number in Group	Number in Group	Compared to Base
M 1	Physician Extender Students & Practitioners	323	32,271
M 2	Physician Extender Students & Practitioners	323	6,738
M 3	Physician Extender: Students	310	323

M PHYSICIAN EXTENDER

```
SOURCE OF DATA:                    GROUP                    MBTI TYPE TABLE
                                 TABULATED:             CENTER FOR APPLICATIONS
MARY H. MCCAULLEY, PH.D.                                 OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS      COMPOSITE:  STUDENTS
HEW CONTRACT 231-76-0051     AND PRACTITIONERS IN     LEGEND: % = PERCENT OF
 AMSA FOUNDATION - CAPT       PHYSICIAN EXTENDER      TOTAL CHOOSING THIS GROUP
                                   SERVICES            WHO FALL INTO THIS TYPE.
TABLE CREATED 7/31/77                                  I = SELFSELECTION INDEX;
                                                       RATIO OF PERCENT OF TYPE
                                   N=  323             IN GROUP TO % IN SAMPLE.

TABLE M-1

     SENSING TYPES              INTUITIVE TYPES
WITH          WITH          WITH          WITH                          N      %       I
THINKING      FEELING       FEELING       THINKING
------------------------------------------------------          E    207  64.09   1.22*
| I S T J    | I S F J    | I N F J    | I N T J    |  J         I    116  35.91   0.75*
|            |            |            |            |  U
|            |            |            |            |  D         S    185  57.28   1.11"
| N=   30    | N=   23    | N=    8    | N=   15    |  G         N    138  42.72   0.88"
|            |            |            |            |  I
| %= 9.29    | %= 7.12    | %= 2.48    | %= 4.64    |  N I       T    165  51.08   1.41*
|            |            |            |            |  G N       F    158  48.92   0.77*
| I= 1.11    | I= 0.68"   | I= 0.46"   | I= 1.14    |    T
|            |            |            |            |    R       J    226  69.97   1.18*
------------------------------------------------------    O       P     97  30.03   0.74*
| I S T P    | I S F P    | I N F P    | I N T P    |    V
|            |            |            |            |    E       IJ    76  23.53   0.83
|            |            |            |            |    R       IP    40  12.38   0.64#
| N=    7    | N=    5    | N=   16    | N=   12    |    T
|            |            |            |            |    S       EP    57  17.65   0.82
| %= 2.17    | %= 1.55    | %= 4.95    | %= 3.72    |  P         EJ   150  46.44   1.50*
|            |            |            |            |  E
| I= 0.93    | I= 0.34#   | I= 0.57"   | I= 1.01    |  R         ST   100  30.96   1.52*
|            |            |            |            |  C         SF    85  26.32   0.85
------------------------------------------------------  E
| E S T P    | E S F P    | E N F P    | E N T P    |  P         NF    73  22.60   0.69*
|            |            |            |            |  T         NT    65  20.12   1.26"
|            |            |            |            |  I
| N=    9    | N=    6    | N=   25    | N=   17    |  V         SJ   158  48.92   1.29*
|            |            |            |            |  E         SP    27   8.36   0.62#
| %= 2.79    | %= 1.86    | %= 7.74    | %= 5.26    |  S E
|            |            |            |            |    X       NP    70  21.67   0.79"
| I= 1.45    | I= 0.40"   | I= 0.68"   | I= 1.45    |    T       NJ    68  21.05   0.99
|            |            |            |            |    R
------------------------------------------------------    A       TJ   120  37.15   1.50*
| E S T J    | E S F J    | E N F J    | E N T J    |  J V       TP    45  13.93   1.20
|            |            |            |            |  U E
|            |            |            |            |  D R       FP    52  16.10   0.55*
| N=   54    | N=   51    | N=   24    | N=   21    |  G T       FJ   106  32.82   0.95
|            |            |            |            |  I S
| %=16.72    | %=15.79    | %= 7.43    | %= 6.50    |  N         IN    51  15.79   0.72#
|            |            |            |            |  G         EN    87  26.93   1.01
| I= 2.16*   | I= 1.40"   | I= 1.02    | I= 1.42    |
|            |            |            |            |            IS    65  20.12   0.78"
------------------------------------------------------            ES   120  37.15   1.45*

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COMPOSITE OF STUDENTS & PRACTITIONERS IN ALL HEALTH AND HEALTH RELATED FIELDS.
   BASE TOTAL N = 32271, SAMPLE AND BASE ARE DEPENDENT.

  * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

       TYPE TABLE ORDER             E  17.96    IJ    3.64    SJ   16.70    IN    7.02
                                    I  17.96    IP   10.13    SP    7.23    EN    0.00
  0.37      4.01      5.31      0.28            EP    2.83    NP    5.35    IS    5.46
                                    S   4.55    EJ   36.93    NJ    0.01    ES   22.89
  0.04      0.01      5.88      0.00  N   4.55
                                                ST   22.60    TJ   26.96
  1.31      5.63      4.17      2.52  T  30.73  SF    3.36    TP    1.77
                                    F  30.73    NF   15.02    FP   27.23
 36.78      6.50      0.02      2.75            NT    4.21    FJ    0.38
                                    J  15.71
                                    P  15.71
```

```
SOURCE OF DATA:                         GROUP                    MBTI TYPE TABLE
                                      TABULATED:             CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                      OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS          COMPOSITE:  STUDENTS
 HEW CONTRACT 231-76-0051         AND PRACTITIONERS IN       LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT           PHYSICIAN EXTENDER        TOTAL CHOOSING THIS GROUP
                                        SERVICES             WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                       I = SELFSELECTION INDEX;
                                                             RATIO OF PERCENT OF TYPE
                                        N=  323              IN GROUP TO % IN SAMPLE.

 TABLE M-2

      SENSING TYPES              INTUITIVE TYPES
 WITH         WITH          WITH         WITH                         N     %       I
 THINKING     FEELING       FEELING      THINKING
-----------------------------------------------------       E     207  64.09   1.14#
| I S T J    | I S F J    | I N F J    | I N T J    |  J      I     116  35.91   0.82#
|            |            |            |            |  U
|            |            |            |            |  D      S     185  57.28   1.01
| N=  30     | N=  23     | N=   8     | N=  15     |  G      N     138  42.72   0.99
|            |            |            |            |  I
| %= 9.29    | %= 7.12    | %= 2.48    | %= 4.64    |  N I    T     165  51.08   1.46*
|            |            |            |            |  G N    F     158  48.92   0.75*
| I= 1.51"   | I= 0.97    | I= 0.82    | I= 2.03#   |    T
|            |            |            |            |    R    J     226  69.97   1.61*
-----------------------------------------------------    O    P      97  30.03   0.53*
| I S T P    | I S F P    | I N F P    | I N T P    |    V
|            |            |            |            |    E    IJ     76  23.53   1.25"
|            |            |            |            |    R    IP     40  12.38   0.50*
| N=   7     | N=   5     | N=  16     | N=  12     |    T
|            |            |            |            |    S    EP     57  17.65   0.56*
| %= 2.17    | %= 1.55    | %= 4.95    | %= 3.72    |  P      EJ    150  46.44   1.88*
|            |            |            |            |  E
| I= 0.56    | I= 0.20*   | I= 0.53#   | I= 0.92    |  R      ST    100  30.95   1.44*
|            |            |            |            |  C      SF     85  26.32   0.74*
-----------------------------------------------------  E
| E S T P    | E S F P    | E N F P    | E N T P    |  P      NF     73  22.60   0.77#
|            |            |            |            |  T      NT     65  20.12   1.48*
|            |            |            |            |  I
| N=   9     | N=   6     | N=  25     | N=  17     |  V      SJ    158  48.92   1.56*
|            |            |            |            |  E      SP     27   8.36   0.33*
| %= 2.79    | %= 1.86    | %= 7.74    | %= 5.26    |  S E
|            |            |            |            |    X    NP     70  21.67   0.70*
| I= 0.63    | I= 0.19*   | I= 0.60#   | I= 1.16    |    T    NJ     68  21.05   1.72*
|            |            |            |            |    R
-----------------------------------------------------    A    TJ    120  37.15   2.04*
| E S T J    | E S F J    | E N F J    | E N T J    |  J V    TP     45  13.93   0.83
|            |            |            |            |  U E
|            |            |            |            |  D R    FP     52  16.10   0.41*
| N=  54     | N=  51     | N=  24     | N=  21     |  G T    FJ    106  32.82   1.30#
|            |            |            |            |  I S
| %=16.72    | %=15.79    | %= 7.43    | %= 6.50    |  N      IN     51  15.79   0.85'
|            |            |            |            |  G      EN     87  26.93   1.11
| I= 2.37*   | I= 1.47#   | I= 1.78#   | I= 2.36*   |
|            |            |            |            |         IS     65  20.12   0.80"
-----------------------------------------------------         ES    120  37.15   1.17"

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
   BASE TOTAL N =  6738. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

       TYPE TABLE ORDER              E    7.71    IJ   4.53    SJ  44.05    IN   1.69
                                     I    7.71    IP  26.50    SP  49.51    EN   1.10
  5.17    0.02    0.31    7.34                    EP  27.75    NP  12.13    IS   4.06
                                     S    0.01    EJ  75.94    NJ  21.65    ES   3.93
  2.49    0.00    7.17    0.08       N    0.01
                                                  ST  16.15    TJ  71.33
  1.95   22.30    7.38    0.37       T   34.25    SF  11.35    TP   1.90
                                     F   34.25    NF   6.97    FP  72.02
 41.58    8.03    7.83   15.16                    NT  10.92    FJ   9.20
                                     J   87.26
                                     P   87.26
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

COMPOSITE OF
STUDENTS IN
PHYSICIAN EXTENDER
SERVICES

N= 310

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX;
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

TABLE M-3

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 30 %= 9.68 I= 1.04	I S F J N= 23 %= 7.42 I= 1.04	I N F J N= 8 %= 2.58 I= 1.04	I N T J N= 13 %= 4.19 I= 0.90	JUDGING	INTROVERTS
I S T P N= 7 %= 2.26 I= 1.04	I S F P N= 5 %= 1.61 I= 1.04	I N F P N= 15 %= 4.84 I= 0.98	I N T P N= 12 %= 3.87 I= 1.04	PERCEPTIVES	
E S T P N= 7 %= 2.26 I= 0.81"	E S F P N= 6 %= 1.94 I= 1.04	E N F P N= 25 %= 8.06 I= 1.04	E N T P N= 16 %= 5.16 I= 0.98		EXTRAVERTS
E S T J N= 52 %=16.77 I= 1.00	E S F J N= 50 %=16.13 I= 1.02	E N F J N= 24 %= 7.74 I= 1.04	E N T J N= 17 %= 5.48 I= 0.84#	JUDGING	

	N	%	I
E	197	63.55	0.99
I	113	36.45	1.01
S	180	58.06	1.01
N	130	41.94	0.98
T	154	49.68	0.97"
F	156	50.32	1.03"
J	217	70.00	1.00
P	93	30.00	1.00
IJ	74	23.87	1.01
IP	39	12.58	1.02
EP	54	17.42	0.99
EJ	143	46.13	0.99
ST	96	30.97	1.00
SF	84	27.10	1.03
NF	72	23.23	1.03
NT	58	18.71	0.93#
SJ	155	50.00	1.02
SP	25	8.06	0.96
NP	68	21.94	1.01
NJ	62	20.00	0.95"
TJ	112	36.13	0.97
TP	42	13.55	0.97
FP	51	16.45	1.02
FJ	105	33.87	1.03
IN	48	15.48	0.98
EN	82	26.45	0.98
IS	65	20.97	1.04
ES	115	37.10	1.00

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS AND PRACTITIONERS IN PHYSICIAN EXTENDER SERVICES
BASE TOTAL N = 323. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.30	0.61	1.00	0.12
1.00	1.00	1.00	1.00
0.05	1.00	0.41	1.00
1.00	0.49	0.61	0.01

E	0.39	IJ	0.54	SJ	0.09	IN	0.70
I	0.39	IP	0.71	SP	0.61	EN	0.53
		EP	0.71	NP	0.74	IS	0.08
S	0.25	EJ	0.30	NJ	5.13	ES	1.00
N	0.25						
		ST	1.00	TJ	0.08		
T	0.02	SF	0.20	TP	0.40		
F	0.02	NF	0.31	FP	0.49		
		NT	9.58	FJ	0.07		
J	1.00						
P	1.00						

Appendix N

Psychological and Counseling Services

Table Number	Name of Group Tabulated	Number in Group	Compared to Base
N 1	All Students and Practitioners	2,453	32,271
N 2	All Students	1,247	6,738
N 3	All Practitioners	1,206	2,453
N 4	Students Majoring in Psychology: Males	393	3,907
N 5	Students Majoring in Psychology: Females	450	2,831
N 6	Psychologists	289	1,206
N 7	Clinical Psychology Students & Practitioners	153	1,206
N 8	Rehabilitation Counseling: Students	98	6,738
N 9	Rehabilitation Counselors	50	1,206
N 10	Counselors: General	359	1,206
N 11	Counselors: General - Males	148	359
N 12	Counselors: General - Females	211	359
N 13	Counselors: School-Related	287	1,206
N 14	Counselors: School-Related: Males	115	287
N 15	Counselors: School-Related: Females	172	287
N 16	Counselors: Junior College & University	67	1,206
N 17	Counselors: Career and Employment	53	1,206
N 18	Paraprofessional and Volunteer Counseling Services	126	2,453
N 19	Rehabilitation Counselors in Florida State Agencies[a]	92	1,206
N 20	High Performance Rehabilitation Counselors	53	92

[a] Tables N 19 and N 20 created from data in:
Hilliard, T. R. *Rehabilitation Counselor Personal Characteristics Type Relationship to Counselor Performance Rating* (Doctoral dissertation, University of Florida, 1972). *Dissertation Abstracts International*, 1973, *34*, 4910A. (University Microfilms No. 73-29, 180)

[These Rehabilitation Counselors are on the CAPT data bank but some were not coded with this counseling specialty, and did not get included in Table N 9.]

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

COMPOSITE: STUDENTS
AND PRACTITIONERS IN
PSYCHOLOGICAL
SERVICES

N= 2453

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE N-1

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 119 %= 4.85 I= 0.58*	I S F J N= 146 %= 5.95 I= 0.57*	I N F J N= 142 %= 5.79 I= 1.08	I N T J N= 91 %= 3.71 I= 0.91	JUDGING	INTROVERTS
I S T P N= 47 %= 1.92 I= 0.82	I S F P N= 88 %= 3.59 I= 0.79"	I N F P N= 385 %=15.70 I= 1.79*	I N T P N= 98 %= 4.00 I= 1.08	PERCEPTIVES	INTROVERTS
E S T P N= 40 %= 1.63 I= 0.85	E S F P N= 87 %= 3.55 I= 0.77#	E N F P N= 462 %=18.83 I= 1.66*	E N T P N= 127 %= 5.18 I= 1.43*	PERCEPTIVES	EXTRAVERTS
E S T J N= 137 %= 5.58 I= 0.72*	E S F J N= 146 %= 5.95 I= 0.53*	E N F J N= 228 %= 9.29 I= 1.28*	E N T J N= 110 %= 4.48 I= 0.98	JUDGING	EXTRAVERTS

	N	%	I
E	1337	54.50	1.04"
I	1116	45.50	0.96"
S	810	33.02	0.64*
N	1643	66.98	1.38*
T	769	31.35	0.86*
F	1684	68.65	1.08*
J	1119	45.62	0.77*
P	1334	54.38	1.33*
IJ	498	20.30	0.72*
IP	618	25.19	1.30*
EP	716	29.19	1.36*
EJ	621	25.32	0.82*
ST	343	13.98	0.69*
SF	467	19.04	0.61*
NF	1217	49.61	1.52*
NT	426	17.37	1.09"
SJ	548	22.34	0.59*
SP	262	10.68	0.79*
NP	1072	43.70	1.60*
NJ	571	23.28	1.10"
TJ	457	18.63	0.75*
TP	312	12.72	1.10
FP	1022	41.66	1.42*
FJ	662	26.99	0.78*
IN	716	29.19	1.34*
EN	927	37.79	1.41*
IS	400	16.31	0.63*
ES	410	16.71	0.65*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
# IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER"S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS & PRACTITIONERS IN ALL HEALTH AND HEALTH RELATED FIELDS.
BASE TOTAL N = 32271. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR _FISHER'S EXACT PROBABILITY_ * * * *

TYPE TABLE ORDER

42.61	58.86	1.02	0.85
2.11	5.78	160.71	0.68
1.17	6.87	149.33	18.38
17.32	76.13	16.49	0.06

E	4.85
I	4.85
S	357.98
N	357.98
T	28.40
F	28.40
J	202.24
P	202.24
IJ	83.48
IP	58.26
EP	93.69
EJ	38.70
ST	66.62
SF	177.92
NF	346.73
NT	3.91
SJ	274.33
SP	17.33
NP	355.65
NJ	6.56
TJ	53.33
TP	3.38
FP	198.04
FJ	65.25
IN	83.75
EN	164.26
IS	124.56
ES	109.89

```
SOURCE OF DATA:                        GROUP                    MBTI TYPE TABLE
                                     TABULATED:            CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                    OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS              COMPOSITE OF
 HEW CONTRACT 231-76-0051             STUDENTS IN          LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT             PSYCHOLOGICAL         TOTAL CHOOSING THIS GROUP
                                       SERVICES            WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                     I = SELFSELECTION INDEX;
                                                           RATIO OF PERCENT OF TYPE
                                        N= 1247            IN GROUP TO % IN SAMPLE.

 TABLE N-2

     SENSING TYPES              INTUITIVE TYPES
 WITH          WITH           WITH          WITH                           N     %        I
 THINKING      FEELING        FEELING       THINKING
----------------------------------------------------------            E   649 52.04    0.93#
| I S T J    | I S F J     | I N F J     | I N T J     |  J           I   598 47.96    1.10#
|            |             |             |             |  U
|            |             |             |             |  D           S   385 30.87    0.54*
| N=  49     | N=  76      | N=  66      | N=  51      |  G           N   862 69.13    1.61*
|            |             |             |             |  I
| %= 3.93    | %= 6.09     | %= 5.29     | %= 4.09     |  N  I        T   375 30.07    0.86*
|            |             |             |             |  G  N        F   872 69.93    1.08*
| I= 0.64#   | I= 0.83     | I= 1.76*    | I= 1.79*    |     T
|            |             |             |             |     R        J   514 41.22    0.95
----------------------------------------------------------     O        P   733 58.78    1.04
| I S T P    | I S F P     | I N F P     | I N T P     |     V
|            |             |             |             |     E        IJ  242 19.41    1.03
|            |             |             |             |     R        IP  356 28.55    1.14#
| N=  27     | N=  48      | N= 225      | N=  56      |     T
|            |             |             |             |     S        EP  377 30.23    0.96
| %= 2.17    | %= 3.85     | %=18.04     | %= 4.49     |  P           EJ  272 21.81    0.88"
|            |             |             |             |  E
| I= 0.56#   | I= 0.50*    | I= 1.93*    | I= 1.12     |  R           ST  151 12.11    0.56*
|            |             |             |             |  C           SF  234 18.77    0.53*
----------------------------------------------------------  E
| E S T P    | E S F P     | E N F P     | E N T P     |  P           NF  638 51.16    1.74*
|            |             |             |             |  T           NT  224 17.96    1.32*
|            |             |             |             |  I
| N=  25     | N=  42      | N= 243      | N=  67      |  V           SJ  243 19.49    0.62*
|            |             |             |             |  E           SP  142 11.39    0.44*
| %= 2.00    | %= 3.37     | %=19.49     | %= 5.37     |  S  E
|            |             |             |             |     X        NP  591 47.39    1.54*
| I= 0.45*   | I= 0.35*    | I= 1.51*    | I= 1.18     |     T        NJ  271 21.73    1.77*
|            |             |             |             |     R
----------------------------------------------------------     A        TJ  200 16.04    0.88
| E S T J    | E S F J     | E N F J     | E N T J     |  J  V        TP  175 14.03    0.83"
|            |             |             |             |  U  E
|            |             |             |             |  D  R        FP  558 44.75    1.13*
| N=  50     | N=  68      | N= 104      | N=  50      |  G  T        FJ  314 25.18    1.00
|            |             |             |             |  I  S
| %= 4.01    | %= 5.45     | %= 8.34     | %= 4.01     |  N           IN  398 31.92    1.71*
|            |             |             |             |  G           EN  464 37.21    1.53*
| I= 0.57*   | I= 0.51*    | I= 1.99*    | I= 1.45"    |
|            |             |             |             |              IS  200 16.04    0.64*
----------------------------------------------------------              ES  185 14.84    0.47*

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8,
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
   BASE TOTAL N =  6738, SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER             E     7.53    IJ    0.27    SJ  70.35    IN 112.32
                                     I     7.53    IP    7.06    SP 119.89    EN  89.34
   9.45     2.43    16.80    13.69                 EP    0.80    NF 130.35    IS  47.63
                                     S 287.38      EJ    4.91    NJ  80.00    ES 147.80
   8.96    23.83    83.17     0.59   N 287.38
                                                   ST   57.82    TJ   3.47
  15.70    52.77    38.32     1.63   T   11.80     SF  133.10    TP   6.12
                                     F   11.80     NF  225.39    FP  11.46
  15.83    32.98    39.48     5.72                 NT   16.29    FJ   0.00
                                     J    2.26
                                     P    2.26
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP TABULATED:

COMPOSITE OF PRACTITIONERS IN PSYCHOLOGICAL SERVICES

N= 1206

MBTI TYPE TABLE
CENTER FOR APPLICATIONS OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE N-3

	SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING
INTROVERTS JUDGING	ISTJ N= 70 %= 5.80 I= 1.20"	ISFJ N= 70 %= 5.80 I= 0.98	INFJ N= 76 %= 6.30 I= 1.09	INTJ N= 40 %= 3.32 I= 0.89
INTROVERTS PERCEPTIVES	ISTP N= 20 %= 1.66 I= 0.87	ISFP N= 40 %= 3.32 I= 0.92	INFP N= 160 %=13.27 I= 0.85#	INTP N= 42 %= 3.48 I= 0.87
EXTRAVERTS PERCEPTIVES	ESTP N= 15 %= 1.24 I= 0.76	ESFP N= 45 %= 3.73 I= 1.05	ENFP N= 219 %=18.16 I= 0.96	ENTP N= 60 %= 4.98 I= 0.96
EXTRAVERTS JUDGING	ESTJ N= 87 %= 7.21 I= 1.29*	ESFJ N= 78 %= 6.47 I= 1.09	ENFJ N= 124 %=10.28 I= 1.11	ENTJ N= 60 %= 4.98 I= 1.11

	N	%	I
E	688	57.05	1.05"
I	518	42.95	0.94"
S	425	35.24	1.07"
N	781	64.76	0.97"
T	394	32.67	1.04
F	812	67.33	0.98
J	605	50.17	1.10*
P	601	49.83	0.92*
IJ	256	21.23	1.05
IP	262	21.72	0.86*
EP	339	28.11	0.96
EJ	349	28.94	1.14*
ST	192	15.92	1.14#
SF	233	19.32	1.01
NF	579	48.01	0.97
NT	202	16.75	0.96
SJ	305	25.29	1.13*
SP	120	9.95	0.93
NP	481	39.88	0.91*
NJ	300	24.88	1.07
TJ	257	21.31	1.14*
TP	137	11.36	0.89"
FP	464	38.47	0.92#
FJ	348	28.86	1.07"
IN	318	26.37	0.90#
EN	463	38.39	1.02
IS	200	16.58	1.02
ES	225	18.66	1.12"

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > .0.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS AND PRACTITIONERS IN PSYCHOLOGICAL SERVICES
BASE TOTAL N = 2453. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

4.67	0.09	1.14	1.03
0.84	0.50	10.57	1.62
2.21	0.24	0.71	0.20
11.94	1.13	2.74	1.33

E	6.19	IJ	1.26	SJ	11.90	IN	9.13
I	6.19	IP	15.15	SP	1.33	EN	0.36
		EP	1.34	NP	14.05	IS	0.13
S	5.28	EJ	16.47	NJ	3.39	ES	6.43
N	5.28						
		ST	7.40	TJ	11.24		
T	1.92	SF	0.12	TP	3.95		
F	1.92	NF	2.44	FP	9.93		
		NT	0.63	FJ	4.20		
J	19.78						
P	19.78						

```
SOURCE OF CATA:                        GROUP                  MBTI TYPE TABLE
                                     TABULATED:          CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY. PH.D.                                  OF PSYCHOLOGICAL TYPE
  AND CTHER CONTRIBUTORS            PSYCHOLOGICAL
 HEW CCNTRACT 231-76-0051             SERVICES           LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT         PSYCHOLOGY STUDENTS     TOTAL CHOOSING THIS GROUP
                                        MALES            WHJ FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                   I = SELFSELECTION INDEX:
                                                         RATIO OF PERCENT OF TYPE
                                      N=   393           IN GROUP TO % IN SAMPLE.

 TABLE N-4

      SENSING TYPES               INTUITIVE TYPES
WITH          WITH          WITH          WITH
THINKING      FEELING       FEELING       THINKING                               N      %         I
--------------------------------------------------------------      E      180  45.80   0.88"
| I S T J     | I S F J     | I N F J     | I N T J     |  J        I      213  54.20   1.14"
|             |             |             |             |  U
|             |             |             |             |  D        S       97  24.68   0.42*
| N=   18     | N=   13     | N=   20     | N=   22     |  G        N      296  75.32   1.80*
|             |             |             |             |  I
| %= 4.58     | %= 3.31     | %= 5.09     | %= 5.60     |  N  I     T      148  37.66   0.83#
|             |             |             |             |  G  N     F      245  62.34   1.14#
| I= 0.56"    | I= 0.52"    | I= 1.60"    | I= 1.75"    |     T
|             |             |             |             |     R     J      149  37.91   0.85#
--------------------------------------------------------------  O     P      244  62.09   1.12#
| I S T P     | I S F P     | I N F P     | I N T P     |     V
|             |             |             |             |     E     IJ      73  18.58   0.89
|             |             |             |             |     R     IP     140  35.62   1.33*
| N=    5     | N=   13     | N=   92     | N=   30     |     T
|             |             |             |             |     S     EP     104  26.46   0.93
| %= 1.27     | %= 3.31     | %=23.41     | %= 7.63     |  P        EJ      76  19.34   0.81"
|             |             |             |             |  E
| I= 0.24±    | I= 0.43#    | I= 2.71*    | I= 1.49"    |  R        ST      48  12.21   0.43*
|             |             |             |             |  C        SF      49  12.47   0.42*
--------------------------------------------------------------  E
| E S T P     | E S F P     | E N F P     | E N T P     |  P        NF     196  49.87   2.03*
|             |             |             |             |  T        NT     100  25.45   1.47*
|             |             |             |             |  I
| N=    7     | N=   11     | N=   63     | N=   23     |  V        SJ      61  15.52   0.49*
|             |             |             |             |  E        SP      36   9.16   0.35*
| %= 1.78     | %= 2.80     | %=16.03     | %= 5.85     |  S  E
|             |             |             |             |     X     NP     208  52.93   1.84*
| I= 0.32#    | I= 0.35*    | I= 1.68*    | I= 1.07     |     T     NJ      88  22.39   1.71*
|             |             |             |             |     R
--------------------------------------------------------------  A     TJ      83  21.12   0.88
| E S T J     | E S F J     | E N F J     | E N T J     |  J  V     TP      65  16.54   0.77"
|             |             |             |             |  U  E
|             |             |             |             |  D  R     FP     179  45.55   1.35*
| N=   18     | N=   12     | N=   21     | N=   25     |  G  T     FJ      66  16.79   0.81
|             |             |             |             |  I  S
| %= 4.58     | %= 3.05     | %= 5.34     | %= 6.36     |  N        IN     164  41.73   2.07*
|             |             |             |             |  G        EN     132  33.59   1.55*
| I= 0.50#    | I= 0.38*    | I= 1.64"    | I= 1.84#    |
|             |             |             |             |           IS      49  12.47   0.45*
--------------------------------------------------------------            ES      48  12.21   0.40*

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIJS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   MALE HIGH SCHOOL JUNIORS AND SENIORS CN THE CAPT DATA BANK
   BASE TOTAL N =  3907. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER               E    6.02   IJ   1.19   SJ  43.90   IN  96.91
                                       I    6.02   IP  13.92   SP  57.61   EN  28.51
  6.28     5.54     4.05     6.22                  EP   0.74   NP  97.46   IS  42.23
                                       S  161.69   EJ   3.93   NJ  25.83   ES  58.51
  0.00    10.11    86.90     4.46      N  161.69
                                                   ST  46.49   TJ   1.56
 10.20    13.73    16.47     0.10      T    8.73   SF  53.83   TP   5.29
                                       F    8.73   NF 115.99   FP  21.65
  9.32    12.28     4.71     8.42                  NT  16.24   FJ   3.46
                                       J    6.65
                                       P    6.65
```

```
SOURCE OF DATA:                      GROUP                 MBTI TYPE TABLE
                                   TABULATED:          CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS          PSYCHOLOGICAL
 HEW CONTRACT 231-76-0051           SERVICES           LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT       PSYCHOLOGY STUDENTS     TOTAL CHOOSING THIS GROUP
                                    FEMALES            WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                 I = SELFSELECTION INDEX:
                                                       RATIO OF PERCENT OF TYPE
                                   N=  450             IN GROUP TO % IN SAMPLE.
 TABLE N-5

       SENSING TYPES              INTUITIVE TYPES
 WITH         WITH          WITH         WITH                        N     %       I
 THINKING     FEELING       FEELING      THINKING
---------------------------------------------------------
                                                            E      258  57.33   0.93
| I S T J   | I S F J   | I N F J   | I N T J   |  J       I      192  42.67   1.11
|           |           |           |           |  U
|           |           |           |           |  D       S      104  23.11   0.42*
| N=  11    | N=  20    | N=  32    | N=  21    |  G       N      346  76.89   1.72*
|           |           |           |           |  I
| %= 2.44   | %= 4.44   | %= 7.11   | %= 4.67   |  N I     T      120  26.67   1.28#
|           |           |           |           |  G N     F      330  73.33   0.93#
| I= 0.72   | I= 0.52#  | I= 2.55*  | I= 4.56*  |    T
|           |           |           |           |    R     J      174  38.67   0.92
---------------------------------------------------------    O     P      276  61.33   1.06
| I S T P   | I S F P   | I N F P   | I N T P   |    V
|           |           |           |           |    E     IJ      84  18.67   1.18
|           |           |           |           |    R     IP     108  24.00   1.07
| N=  11    | N=   8    | N=  75    | N=  14    |    T
|           |           |           |           |    S     EP     168  37.33   1.05
| %= 2.44   | %= 1.78   | %=16.67   | %= 3.11   |  P       EJ      90  20.00   0.77#
|           |           |           |           |  E
| I= 1.33   | I= 0.23*  | I= 1.61*  | I= 1.24   |  R       ST      40   8.89   0.73"
|           |           |           |           |  C       SF      64  14.22   0.33*
---------------------------------------------------------  E
| E S T P   | E S F P   | E N F P   | E N T P   |  P       NF     266  59.11   1.64*
|           |           |           |           |  T       NT      80  17.78   2.07*
|           |           |           |           |  I
| N=   7    | N=  18    | N= 110    | N=  33    |  V       SJ      60  13.33   0.43*
|           |           |           |           |  E       SP      44   9.78   0.40*
| %= 1.56   | %= 4.00   | %=24.44   | %= 7.33   |  S E
|           |           |           |           |    X     NP     232  51.56   1.53*
| I= 0.54   | I= 0.33*  | I= 1.40*  | I= 2.26*  |    T     NJ     114  25.33   2.28*
|           |           |           |           |    R
---------------------------------------------------------    A     TJ      55  12.22   1.18
| E S T J   | E S F J   | E N F J   | E N T J   |  J V     TP      65  14.44   1.39"
|           |           |           |           |  U E
|           |           |           |           |  D R     FP     211  46.89   0.98
| N=  11    | N=  18    | N=  49    | N=  12    |  G T     FJ     119  26.44   0.84"
|           |           |           |           |  I S
| %= 2.44   | %= 4.00   | %=10.89   | %= 2.67   |  N       IN     142  31.56   1.89*
|           |           |           |           |  G       EN     204  45.33   1.62*
| I= 0.59   | I= 0.27*  | I= 1.99*  | I= 1.48   |
|           |           |           |           |          IS      50  11.11   0.51*
---------------------------------------------------------          ES      54  12.00   0.36*

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
         #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
         *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   FEMALE HIGH SCHOOL JUNIORS AND SENIORS ON THE CAPT DATA BANK
   BASE TOTAL N =  2831. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

       TYPE TABLE ORDER              E    3.13   IJ    2.31   SJ  58.26   IN  56.54
                                     I    3.13   IP    0.52   SP  48.37   EN  55.08
 1.10     9.14    22.17    34.32                 EP    0.48   NP  54.34   IS  26.61
                                     S 161.14    EJ    7.58   NJ  69.43   ES  85.89
 0.76    21.57    15.56     0.56     N 161.14
                                                 ST    4.23   TJ   1.38
 2.54    25.79    12.50    17.67     T    7.77   SF  135.59   TP   6.31
                                     F    7.77   NF   86.22   FP   0.09
 3.05    38.33    19.52     1.54                 NT   36.98   FJ   4.67
                                     J    1.67
                                     P    1.67
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

PSYCHOLOGISTS

N= 289

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE N-6

SENSING TYPES		INTUITIVE TYPES			
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING		
I S T J N= 12 %= 4.15 I= 0.72	I S F J N= 10 %= 3.46 I= 0.60"	I N F J N= 20 %= 6.92 I= 1.10	I N T J N= 18 %= 6.23 I= 1.88#	JUDGING	INTROVERTS
I S T P N= 7 %= 2.42 I= 1.46	I S F P N= 5 %= 1.73 I= 0.52	I N F P N= 52 %=17.99 I= 1.36#	I N T P N= 23 %= 7.96 I= 2.29*	PERCEPTIVES	
E S T P N= 2 %= 0.69 I= 0.56	E S F P N= 6 %= 2.08 I= 0.56	E N F P N= 44 %=15.22 I= 0.84	E N T P N= 22 %= 7.61 I= 1.53"		EXTRAVERTS
E S T J N= 11 %= 3.81 I= 0.53"	E S F J N= 3 %= 1.04 I= 0.16*	E N F J N= 28 %= 9.69 I= 0.94	E N T J N= 26 %= 9.00 I= 1.81*	JUDGING	

	N	%	I
E	142	49.13	0.86#
I	147	50.87	1.18#
S	56	19.38	0.55*
N	233	80.62	1.24*
T	121	41.87	1.28*
F	168	58.13	0.86*
J	128	44.29	0.88"
P	161	55.71	1.12"
IJ	60	20.76	0.98
IP	87	30.10	1.39*
EP	74	25.61	0.91
EJ	68	23.53	0.81"
ST	32	11.07	0.70#
SF	24	8.30	0.43*
NF	144	49.83	1.04
NT	89	30.80	1.84*
SJ	36	12.46	0.49*
SP	20	6.92	0.70"
NP	141	48.79	1.22*
NJ	92	31.83	1.28#
TJ	67	23.18	1.09
TP	54	18.69	1.64*
FP	107	37.02	0.96
FJ	61	21.11	0.73*
IN	113	39.10	1.48*
EN	120	41.52	1.08
IS	34	11.76	0.71"
ES	22	7.61	0.41*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN PSYCHOLOGICAL SERVICES
BASE TOTAL N = 1206. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

1.90	3.82	0.25	10.05
1.36	0.09	7.38	22.65
0.39	2.90	2.20	5.59
6.59	0.00	0.15	13.00

E	9.71	IJ	0.05	SJ	33.13	IN	31.73
I	9.71	IP	15.69	SP	3.89	EN	1.58
S	41.91	EP	1.18	NP	12.57	IS	6.38
N	41.91	EJ	5.41	NJ	9.85	ES	30.55
T	14.62	ST	6.67	TJ	0.80		
F	14.62	SF	29.59	TP	20.25		
J	5.25	NF	0.50	FP	0.34		
P	5.25	NT	53.78	FJ	11.12		

```
SOURCE OF DATA:                     GROUP                   MBTI TYPE TABLE
                                  TABULATED:             CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                 OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS          COMPOSITE OF
 HEW CONTRACT 231-76-0051      GRADUATE STUDENTS        LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT     AND PRACTITIONERS IN       TOTAL CHOOSING THIS GROUP
                             CLINICAL PSYCHOLOGY        WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                  I = SELFSELECTION INDEX;
                                                        RATIO OF PERCENT OF TYPE
                                   N=   153             IN GROUP TO % IN SAMPLE.

 TABLE N-7

      SENSING TYPES              INTUITIVE TYPES
 WITH          WITH           WITH          WITH                          N     %       I
 THINKING      FEELING        FEELING       THINKING
----------------------------------------------------------          E    62 40.52   0.71*
| I S T J    | I S F J     | I N F J     | I N T J     |  J         I    91 59.48   1.38*
|            |             |             |             |  U
|            |             |             |             |  D         S    18 11.76   0.33*
| N=   2     | N=   5      | N=  22      | N=  10      |  G         N   135 88.24   1.36*
|            |             |             |             |  I
| %= 1.31    | %= 3.27     | %=14.38     | %= 6.54     |  N I       T    42 27.45   0.84
|            |             |             |             |  G N       F   111 72.55   1.08
| I= 0.23"   | I= 0.56     | I= 2.28*    | I= 1.97"    |    T
|            |             |             |             |    R       J    63 41.18   0.82"
----------------------------------------------------------    O       P    90 58.82   1.18"
| I S T P    | I S F P     | I N F P     | I N T P     |    V
|            |             |             |             |    E       IJ   39 25.49   1.20
|            |             |             |             |    R       IP   52 33.99   1.56*
| N=   3     | N=   3      | N=  41      | N=   5      |    T
|            |             |             |             |    S       EP   38 24.84   0.88
| %= 1.96    | %= 1.96     | %=26.80     | %= 3.27     |  P         EJ   24 15.69   0.54*
|            |             |             |             |  E
| I= 1.18    | I= 0.59     | I= 2.02*    | I= 0.94     |  R         ST    8  5.23   0.33*
|            |             |             |             |  C         SF   10  6.54   0.34*
----------------------------------------------------------  E
| E S T P    | E S F P     | E N F P     | E N T P     |  P         NF  101 66.01   1.37*
|            |             |             |             |  T         NT   34 22.22   1.33
|            |             |             |             |  I
| N=   2     | N=   0      | N=  25      | N=  11      |  V         SJ   10  6.54   0.26*
|            |             |             |             |  E         SP    8  5.23   0.53"
| %= 1.31    | %= 0.0      | %=16.34     | %= 7.19     |  S E
|            |             |             |             |    X       NP   82 53.59   1.34*
| I= 1.05    | I= 0.0 #    | I= 0.90     | I= 1.45     |    T       NJ   53 34.64   1.39#
|            |             |             |             |    R
----------------------------------------------------------    A       TJ   21 13.73   0.64"
| E S T J    | E S F J     | E N F J     | E N T J     |  J V       TP   21 13.73   1.21
|            |             |             |             |  U E
|            |             |             |             |  D R       FP   69 45.10   1.17
| N=   1     | N=   2      | N=  13      | N=   8      |  G T       FJ   42 27.45   0.95
|            |             |             |             |  I S
| %= 0.65    | %= 1.31     | %= 8.50     | %= 5.23     |  N         IN   78 50.98   1.93*
|            |             |             |             |  G         EN   57 37.25   0.97
| I= 0.09*   | I= 0.20#    | I= 0.83     | I= 1.05     |
|            |             |             |             |            IS   13  8.50   0.51#
----------------------------------------------------------            ES    5  3.27   0.18*

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
          "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >   3.8;
          #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >   6.6;
          *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COMPOSITE OF PRACTITIONERS IN PSYCHOLOGICAL SERVICES
   BASE TOTAL N =  1206. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER                E   19.53    IJ   1.90    SJ  32.62    IN  54.67
                                        I   19.53    IP  15.49    SP   4.36    EN   0.10
 0.01      0.19     19.36     5.66                   EP   0.93    NP  13.74    IS   8.28
                                        S   42.32    EJ  14.97    NJ   8.94    ES   0.00
 0.99      0.35     27.88     0.99      N   42.32
                                                     ST  14.96    TJ   6.01
 0.99      0.01      0.39     1.82      T    2.17    SF  18.37    TP   0.97
                                        F    2.17    NF  22.75    FP   3.25
 0.99      0.01      0.61     0.02                   NT   3.76    FJ   0.17
                                        J    5.66
                                        P    5.66
```

```
SOURCE OF DATA:                       GROUP                  MBTI TYPE TABLE
                                    TABULATED:           CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY. PH.D.                                  OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS
 HEW CONTRACT 231-76-0051         PSYCHOLOGICAL
  AMSA FOUNDATION - CAPT             SERVICES            LEGEND: % = PERCENT OF
                                  REHABILITATION         TOTAL CHOOSING THIS GROUP
                               COUNSELING STUDENTS       WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                   I = SELFSELECTION INDEX;
                                                         RATIO OF PERCENT OF TYPE
                                     N=    98            IN GROUP TO % IN SAMPLE.

 TABLE N-8

     SENSING TYPES              INTUITIVE TYPES
WITH         WITH          WITH          WITH                           N     %       I
THINKING     FEELING       FEELING       THINKING
-----------------------------------------------------         E        47  47.96   0.85
| I S T J    | I S F J    | I N F J    | I N T J    |  J      I        51  52.04   1.19
|            |            |            |            |  U
|            |            |            |            |  D      S        37  37.76   0.66*
| N=    3    | N=   11    | N=    3    | N=    3    |  G      N        61  62.24   1.45*
|            |            |            |            |  I
| %= 3.06    | %=11.22    | %= 3.06    | %= 3.06    |  N  I   T        16  16.33   0.47*
|            |            |            |            |  G  N   F        82  83.67   1.29*
| I= 0.50    | I= 1.53    | I= 1.02    | I= 1.34    |     T
|            |            |            |            |     R   J        39  39.80   0.91
-----------------------------------------------------     O   P        59  60.20   1.07
| I S T P    | I S F P    | I N F P    | I N T P    |     V
|            |            |            |            |     E   IJ       20  20.41   1.09
|            |            |            |            |     R   IP       31  31.63   1.27
| N=    0    | N=    9    | N=   18    | N=    4    |     T
|            |            |            |            |     S   EP       28  28.57   0.91
| %= 0.0     | %= 9.18    | %=18.37    | %= 4.08    |  P      EJ       19  19.39   0.78
|            |            |            |            |  E
| I= 0.0     | I= 1.19    | I= 1.96#   | I= 1.01    |  R      ST        7   7.14   0.33*
|            |            |            |            |  C      SF       30  30.61   0.86
-----------------------------------------------------  E
| E S T P    | E S F P    | E N F P    | E N T P    |  P      NF       52  53.06   1.80*
|            |            |            |            |  T      NT        9   9.18   0.67
|            |            |            |            |  I
| N=    0    | N=    5    | N=   23    | N=    0    |  V      SJ       23  23.47   0.75
|            |            |            |            |  E      SP       14  14.29   0.56#
| %= 0.0     | %= 5.10    | %=23.47    | %= 0.0     |  S  E
|            |            |            |            |     X   NP       45  45.92   1.49#
| I= 0.0 "   | I= 0.53    | I= 1.82#   | I= 0.0 "   |     T   NJ       16  16.33   1.33
|            |            |            |            |     R
-----------------------------------------------------     A   TJ       12  12.24   0.67
| E S T J    | E S F J    | E N F J    | E N T J    |  J  V   TP        4   4.08   0.24#
|            |            |            |            |  U  E
|            |            |            |            |  D  R   FP       55  56.12   1.42*
| N=    4    | N=    5    | N=    8    | N=    2    |  G  T   FJ       27  27.55   1.09
|            |            |            |            |  I  S
| %= 4.08    | %= 5.10    | %= 8.16    | %= 2.04    |  N      IN       28  28.57   1.53"
|            |            |            |            |  G      EN       33  33.67   1.38"
| I= 0.58    | I= 0.47    | I= 1.95    | I= 0.74    |
|            |            |            |            |         IS       23  23.47   0.94
-----------------------------------------------------         ES       14  14.29   0.45*

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
          "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. >  3.8;
          #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. >  6.6;
          *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
   BASE TOTAL N =  6738. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER              E    2.70   IJ    0.17   SJ    2.74   IN    6.20
                                      I    2.70   IP    2.28   SP    6.61   EN    4.52
 0.28     2.14     0.97     0.71                  EP    0.39   NP   10.33   IS    0.13
                                      S   14.51   EJ    1.49   NJ    1.49   ES   13.83
 0.05     0.29     9.15     0.94      N   14.51
                                                  ST   11.87   TJ    2.34
 0.04     0.15     9.55     0.04      T   15.00   SF    1.00   TP    0.00
                                      F   15.00   NF   25.80   FP   10.97
 0.31     0.09     3.76     0.73                  NT    1.62   FJ    0.26
                                      J    0.54
                                      P    0.54
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

REHABILITATION
COUNSELORS

N= 50

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE N-9

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
ISTJ N= 2 %= 4.00 I= 0.69	ISFJ N= 3 %= 6.00 I= 1.03	INFJ N= 2 %= 4.00 I= 0.63	INTJ N= 1 %= 2.00 I= 0.60	JUDGING	INTROVERTS
ISTP N= 1 %= 2.00 I= 1.21	ISFP N= 1 %= 2.00 I= 0.60	INFP N= 9 %=18.00 I= 1.36	INTP N= 2 %= 4.00 I= 1.15	PERCEPTIVES	
ESTP N= 0 %= 0.0 I= 0.0	ESFP N= 5 %=10.00 I= 2.68"	ENFP N= 8 %=16.00 I= 0.88	ENTP N= 1 %= 2.00 I= 0.40		EXTRAVERTS
ESTJ N= 6 %=12.00 I= 1.66	ESFJ N= 2 %= 4.00 I= 0.62	ENFJ N= 5 %=10.00 I= 0.97	ENTJ N= 2 %= 4.00 I= 0.80	JUDGING	

	N	%	I
E	29	58.00	1.02
I	21	42.00	0.98
S	20	40.00	1.14
N	30	60.00	0.93
T	15	30.00	0.92
F	35	70.00	1.04
J	23	46.00	0.92
P	27	54.00	1.08
IJ	8	16.00	0.75
IP	13	26.00	1.20
EP	14	28.00	1.00
EJ	15	30.00	1.04
ST	9	18.00	1.13
SF	11	22.00	1.14
NF	24	48.00	1.00
NT	6	12.00	0.72
SJ	13	26.00	1.03
SP	7	14.00	1.41
NP	20	40.00	1.00
NJ	10	20.00	0.80
TJ	11	22.00	1.03
TP	4	8.00	0.70
FP	23	46.00	1.20
FJ	12	24.00	0.83
IN	14	28.00	1.06
EN	16	32.00	0.83
IS	7	14.00	0.84
ES	13	26.00	1.39

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN PSYCHOLOGICAL SERVICES
BASE TOTAL N = 1206. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.76	1.00	0.58	0.72
0.99	0.72	1.02	0.99
0.65	0.03	0.16	0.51
1.79	0.57	0.99	0.99

E	0.02	IJ	0.85	SJ	0.01	IN	0.07
I	0.02	IP	0.56	SP	0.95	EN	0.90
S	0.52	EP	0.00	NP	0.00	IS	0.25
N	0.52	EJ	0.03	NJ	0.66	ES	1.85
T	0.17	ST	0.17	TJ	0.01		
F	0.17	SF	0.24	TP	0.50		
J	0.36	NF	0.00	FP	1.25		
P	0.36	NT	0.84	FJ	0.60		

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

COUNSELORS
GENERAL

N= 359

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE N-10

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 21 %= 5.85 I= 1.01	I S F J N= 20 %= 5.57 I= 0.96	I N F J N= 28 %= 7.80 I= 1.24	I N T J N= 11 %= 3.06 I= 0.92	JUDGING INTROVERTS
I S T P N= 4 %= 1.11 I= 0.67	I S F P N= 16 %= 4.46 I= 1.34	I N F P N= 50 %=13.93 I= 1.05	I N T P N= 9 %= 2.51 I= 0.72	PERCEPTIVES INTROVERTS
E S T P N= 4 %= 1.11 I= 0.90	E S F P N= 11 %= 3.06 I= 0.82	E N F P N= 84 %=23.40 I= 1.29#	E N T P N= 11 %= 3.06 I= 0.62"	PERCEPTIVES EXTRAVERTS
E S T J N= 18 %= 5.01 I= 0.70	E S F J N= 24 %= 6.69 I= 1.03	E N F J N= 41 %=11.42 I= 1.11	E N T J N= 7 %= 1.95 I= 0.39#	JUDGING EXTRAVERTS

	N	%	I
E	200	55.71	0.98
I	159	44.29	1.03
S	118	32.87	0.93
N	241	67.13	1.04
T	85	23.68	0.72*
F	274	76.32	1.13*
J	170	47.35	0.94
P	189	52.65	1.06
IJ	80	22.28	1.05
IP	79	22.01	1.01
EP	110	30.64	1.09
EJ	90	25.07	0.87
ST	47	13.09	0.82
SF	71	19.78	1.02
NF	203	56.55	1.18*
NT	38	10.58	0.63*
SJ	83	23.12	0.91
SP	35	9.75	0.98
NP	154	42.90	1.08
NJ	87	24.23	0.97
TJ	57	15.88	0.75#
TP	28	7.80	0.69"
FP	161	44.85	1.17#
FJ	113	31.48	1.09
IN	98	27.30	1.04
EN	143	39.83	1.04
IS	61	16.99	1.02
ES	57	15.88	0.85

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN PSYCHOLOGICAL SERVICES
BASE TOTAL N = 1206. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.00	0.05	1.94	0.10
0.46	2.07	0.19	1.45
1.00	0.63	9.44	3.95
3.70	0.04	0.72	9.90

E	0.37	IJ	0.34	SJ	1.27	IN	0.23
I	0.37	IP	0.02	SP	0.02	EN	0.45
S	1.26	EP	1.62	NP	1.94	IS	0.06
N	1.26	EJ	3.72	NJ	0.11	ES	2.60
T	18.79	ST	3.06	TJ	9.00		
F	18.79	SF	0.07	TP	6.44		
J	1.62	NF	14.92	FP	8.77		
P	1.62	NT	13.93	FJ	1.71		

```
SOURCE OF DATA:                          GROUP               MBTI TYPE TABLE
                                       TABULATED:        CENTER FOR APPLICATIONS
MARY H. MCCAULLEY, PH.D.                                   OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS                COUNSELORS
HEW CONTRACT 231-76-0051                GENERAL          LEGEND: % = PERCENT OF
 AMSA FOUNDATION - CAPT                  MALES           TOTAL CHOOSING THIS GROUP
                                                         WHO FALL INTO THIS TYPE.
TABLE CREATED 7/31/77                                    I = SELFSELECTION INDEX;
                                                         RATIO OF PERCENT OF TYPE
                                         N=  148         IN GROUP TO % IN SAMPLE.

TABLE N-11

      SENSING TYPES                 INTUITIVE TYPES
WITH          WITH          WITH          WITH                            N     %       I
THINKING      FEELING       FEELING       THINKING
---------------------------------------------------------           E    66 44.59   0.80*
| I S T J     | I S F J     | I N F J     | I N T J     | J         I    82 55.41   1.25*
|             |             |             |             | U
|             |             |             |             | D         S    58 39.19   1.19"
| N=  13      | N=   8      | N=  14      | N=   6      | G         N    90 60.81   0.91"
|             |             |             |             | I
| %= 8.78     | %= 5.41     | %= 9.46     | %= 4.05     | N I       T    47 31.76   1.34#
|             |             |             |             | G N       F   101 68.24   0.89#
| I= 1.50"    | I= 0.97     | I= 1.21     | I= 1.32     |   T
|             |             |             |             |   R       J    74 50.00   1.06
---------------------------------------------------------   O       P    74 50.00   0.95
| I S T P     | I S F P     | I N F P     | I N T P     |   V
|             |             |             |             |   E       IJ   41 27.70   1.24"
|             |             |             |             |   R       IP   41 27.70   1.26"
| N=   3      | N=   8      | N=  24      | N=   6      |   T
|             |             |             |             |   S       EP   33 22.30   0.73#
| %= 2.03     | %= 5.41     | %=16.22     | %= 4.05     | P         EJ   33 22.30   0.89
|             |             |             |             | E
| I= 1.82     | I= 1.21     | I= 1.16     | I= 1.62     | R         ST   25 16.89   1.29
|             |             |             |             | C         SF   33 22.30   1.13
--------------------------------------------------------- E
| E S T P     | E S F P     | E N F P     | E N T P     | P         NF   68 45.95   0.81*
|             |             |             |             | T         NT   22 14.86   1.40"
|             |             |             |             | I
| N=   3      | N=   5      | N=  20      | N=   5      | V         SJ   39 26.35   1.14
|             |             |             |             | E         SP   19 12.84   1.32
| %= 2.03     | %= 3.38     | %=13.51     | %= 3.38     | S E
|             |             |             |             |   X       NP   55 37.16   0.87
| I= 1.82     | I= 1.10     | I= 0.58*    | I= 1.10     |   T       NJ   35 23.65   0.98
|             |             |             |             |   R
---------------------------------------------------------   A       TJ   30 20.27   1.28
| E S T J     | E S F J     | E N F J     | E N T J     | J V       TP   17 11.49   1.47"
|             |             |             |             | U E
|             |             |             |             | D R       FP   57 38.51   0.86"
| N=   6      | N=  12      | N=  10      | N=   5      | G T       FJ   44 29.73   0.94
|             |             |             |             | I S
| %= 4.05     | %= 8.11     | %= 6.76     | %= 3.38     | N         IN   50 33.78   1.24"
|             |             |             |             | G         EN   40 27.03   0.68*
| I= 0.81     | I= 1.21     | I= 0.59"    | I= 1.73     |
|             |             |             |             |           IS   32 21.62   1.27"
---------------------------------------------------------           ES   26 17.57   1.11

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
         #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
         *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   GENERAL COUNSELORS
   BASE TOTAL N =    359. SAMPLE AND BASE ARE DEPENDENT.

  * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER                 E  12.61   IJ   4.27   SJ   1.48   IN   5.34
                                         I  12.61   IP   4.76   SP   2.73   EN  17.23
  3.94     0.0[illegible]     0.96      0.54                EP   8.25   NP   3.38   IS   3.83
                                         S   4.56   FJ   1.03   NJ   0.05   FS   0.54
  0.31     0.53      1.10      0.17      N   4.56
                                                    ST   3.20   TJ   3.64
  0.3[illegible]  [illegible].00  13.73  1.00       T   9.10   SF   1.01   TP   4.76
                                         F   9.10   NF  11.51   FP   4.08
  0.49     0.82      5.41      0.13                 NT   4.87   FJ   0.36
                                         J   0.71
                                         P   0.71
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

COUNSELORS
GENERAL
FEMALES

N= 211

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE N-12

SENSING TYPES WITH THINKING	 WITH FEELING	INTUITIVE TYPES WITH FEELING	 WITH THINKING		
I S T J N= 8 %= 3.79 I= 0.65"	I S F J N= 12 %= 5.69 I= 1.02	I N F J N= 14 %= 6.64 I= 0.85	I N T J N= 5 %= 2.37 I= 0.77	JUDGING	INTROVERTS
I S T P N= 1 %= 0.47 I= 0.43	I S F P N= 8 %= 3.79 I= 0.85	I N F P N= 26 %=12.32 I= 0.88	I N T P N= 3 %= 1.42 I= 0.57	PERCEPTIVES	
E S T P N= 1 %= 0.47 I= 0.43	E S F P N= 6 %= 2.84 I= 0.93	E N F P N= 64 %=30.33 I= 1.30*	E N T P N= 6 %= 2.84 I= 0.93		EXTRAVERTS
E S T J N= 12 %= 5.69 I= 1.13	E S F J N= 12 %= 5.69 I= 0.85	E N F J N= 31 %=14.69 I= 1.29"	E N T J N= 2 %= 0.95 I= 0.49	JUDGING	

	N	%	I
E	134	63.51	1.14*
I	77	36.49	0.82*
S	60	28.44	0.87"
N	151	71.56	1.07"
T	38	18.01	0.76#
F	173	81.99	1.07#
J	96	45.50	0.96
P	115	54.50	1.04
IJ	39	18.48	0.83"
IP	38	18.01	0.82"
EP	77	36.49	1.19#
EJ	57	27.01	1.08
ST	22	10.43	0.80
SF	38	18.01	0.91
NF	135	63.98	1.13*
NT	16	7.58	0.72"
SJ	44	20.85	0.90
SP	16	7.58	0.78
NP	99	46.92	1.09
NJ	52	24.64	1.02
TJ	27	12.80	0.81
TP	11	5.21	0.67"
FP	104	49.29	1.10"
FJ	69	32.70	1.04
IN	48	22.75	0.83"
EN	103	48.82	1.23*
IS	29	13.74	0.81"
ES	31	14.69	0.93

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
GENERAL COUNSELORS
BASE TOTAL N = 359. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

3.94	0.01	0.96	0.54
0.31	0.53	1.10	0.17
0.31	1.00	13.73	1.00
0.49	0.82	5.41	0.13

E	12.61	IJ	4.27	SJ	1.48	IN	5.34
I	12.61	IP	4.76	SP	2.73	EN	17.23
		EP	8.25	NP	3.38	IS	3.83
S	4.56	EJ	1.03	NJ	0.05	ES	0.54
N	4.56						
		ST	3.20	TJ	3.64		
T	9.10	SF	1.01	TP	4.76		
F	9.10	NF	11.51	FP	4.08		
		NT	4.87	FJ	0.36		
J	0.71						
P	0.71						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

SCHOOL
COUNSELORS

N= 287

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE N-13

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 16 %= 5.57 I= 0.96	I S F J N= 17 %= 5.92 I= 1.02	I N F J N= 14 %= 4.88 I= 0.77	I N T J N= 5 %= 1.74 I= 0.53	JUDGING INTROVERTS
I S T P N= 4 %= 1.39 I= 0.84	I S F P N= 7 %= 2.44 I= 0.74	I N F P N= 37 %=12.89 I= 0.97	I N T P N= 4 %= 1.39 I= 0.40"	PERCEPTIVES INTROVERTS
E S T P N= 4 %= 1.39 I= 1.12	E S F P N= 12 %= 4.18 I= 1.12	E N F P N= 53 %=18.47 I= 1.02	E N T P N= 14 %= 4.88 I= 0.98	PERCEPTIVES EXTRAVERTS
E S T J N= 24 %= 8.36 I= 1.16	E S F J N= 27 %= 9.41 I= 1.45"	E N F J N= 34 %=11.85 I= 1.15	E N T J N= 15 %= 5.23 I= 1.05	JUDGING EXTRAVERTS

	N	%	I
E	183	63.76	1.12#
I	104	36.24	0.84#
S	111	38.68	1.10
N	176	61.32	0.95
T	86	29.97	0.92
F	201	70.03	1.04
J	152	52.96	1.06
P	135	47.04	0.94
IJ	52	18.12	0.85
IP	52	18.12	0.83
EP	83	28.92	1.03
EJ	100	34.84	1.20"
ST	48	16.72	1.05
SF	63	21.95	1.14
NF	138	48.08	1.00
NT	38	13.24	0.79
SJ	84	29.27	1.16
SP	27	9.41	0.95
NP	108	37.63	0.94
NJ	68	23.69	0.95
TJ	60	20.91	0.98
TP	26	9.06	0.80
FP	109	37.98	0.99
FJ	92	32.06	1.11
IN	60	20.91	0.79"
EN	116	40.42	1.05
IS	44	15.33	0.92
ES	67	23.34	1.25"

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN PSYCHOLOGICAL SERVICES
BASE TOTAL N = 1206. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.04	0.01	1.29	0.09
0.79	0.90	0.05	0.04
0.99	0.21	0.02	0.01
0.74	5.38	1.00	0.05

E	6.93	IJ	2.18	SJ	3.15	IN	5.79
I	6.93	IP	2.88	SP	0.12	EN	0.65
S	1.95	EP	0.12	NP	0.80	IS	0.43
N	1.95	EJ	6.39	NJ	0.28	ES	5.45
T	1.25	ST	0.18	TJ	0.04		
F	1.25	SF	1.67	TP	1.98		
J	1.18	NF	0.00	FP	0.04		
P	1.18	NT	3.33	FJ	1.88		

```
SOURCE OF DATA:                          GROUP                    MBTI TYPE TABLE
                                       TABULATED:           CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                     OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS                  SCHOOL
 HEW CONTRACT 231-76-0051               COUNSELORS          LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT                  MALES             TOTAL CHOOSING THIS GROUP
                                                            WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                      I = SELFSELECTION INDEX;
                                                            RATIO OF PERCENT OF TYPE
                                         N=  115            IN GROUP TO % IN SAMPLE.

 TABLE N-14

      SENSING TYPES             INTUITIVE TYPES
WITH           WITH          WITH          WITH                          N     %       I
THINKING       FEELING       FEELING       THINKING
------------------------------------------------------        E         75 65.22    1.02
| I S T J    | I S F J    | I N F J    | I N T J    | J       I         40 34.78    0.96
|            |            |            |            | U
|            |            |            |            | D       S         51 44.35    1.15
| N=    8    | N=    7    | N=    2    | N=    1    | G       N         64 55.65    0.91
|            |            |            |            | I
| %= 6.96    | %= 6.09    | %= 1.74    | %= 0.87    | N I     T         38 33.04    1.10
|            |            |            |            | G N     F         77 66.96    0.96
| I= 1.25    | I= 1.03    | I= 0.36    | I= 0.50    |   T
|            |            |            |            |   R     J         63 54.78    1.03
------------------------------------------------------   O     P         52 45.22    0.96
| I S T P    | I S F P    | I N F P    | I N T P    |   V
|            |            |            |            |   E     IJ        18 15.65    0.86
|            |            |            |            |   R     IP        22 19.13    1.06
| N=    2    | N=    4    | N=   13    | N=    3    |   T
|            |            |            |            |   S     EP        30 26.09    0.90
| %= 1.74    | %= 3.48    | %=11.30    | %= 2.61    | P       EJ        45 39.13    1.12
|            |            |            |            | E
| I= 1.25    | I= 1.43    | I= 0.88    | I= 1.87    | R       ST        22 19.13    1.14
|            |            |            |            | C       SF        29 25.22    1.15
------------------------------------------------------ E
| E S T P    | E S F P    | E N F P    | E N T P    | P       NF        48 41.74    0.87
|            |            |            |            | T       NT        16 13.91    1.05
|            |            |            |            | I
| N=    3    | N=    5    | N=   19    | N=    3    | V       SJ        37 32.17    1.10
|            |            |            |            | E       SP        14 12.17    1.29
| %= 2.61    | %= 4.35    | %=16.52    | %= 2.61    | S E
|            |            |            |            |   X     NP        38 33.04    0.88
| I= 1.87    | I= 1.04    | I= 0.89    | I= 0.53    |   T     NJ        26 22.61    0.95
|            |            |            |            |   R
------------------------------------------------------   A     TJ        27 23.48    1.12
| E S T J    | E S F J    | E N F J    | E N T J    | J V     TP        11  9.57    1.06
|            |            |            |            | U E
|            |            |            |            | D R     FP        41 35.65    0.94
| N=    9    | N=   13    | N=   14    | N=    9    | G T     FJ        36 31.30    0.98
|            |            |            |            | I S
| %= 7.83    | %=11.30    | %=12.17    | %= 7.83    | N       IN        19 16.52    0.79
|            |            |            |            | G       EN        45 39.13    0.97
| I= 0.94    | I= 1.20    | I= 1.03    | I= 1.50    |
|            |            |            |            |         IS        21 18.26    1.19
------------------------------------------------------         ES        30 26.09    1.12

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
         #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
         *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   SCHOOL RELATED COUNSELORS
   BASE TOTAL N =    287. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

       TYPE TABLE ORDER               E   0.18   IJ   0.79   SJ   0.78   IN   2.23
                                      I   0.18   IP   0.13   SP   1.72   EN   0.13
 0.70     0.01     0.05     0.42                 EP   0.75   NP   1.72   IS   1.27
                                      S   2.60   EJ   1.55   NJ   0.12   ES   0.81
 1.00     0.44     0.43     0.31      N   2.60
                                                 ST   0.80   TJ   0.77
 0.31     1.00     0.48     0.17      T   0.87   SF   1.19   TP   0.06
                                      F   0.87   NF   3.09   FP   0.44
 0.07     0.81     0.02     2.62                 NT   0.08   FJ   0.05
                                      J   0.26
                                      P   0.26
```

583

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

TABLE N-15

GROUP
TABULATED:

SCHOOL
COUNSELORS
FEMALES

N= 172

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE. I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

SENSING TYPES		INTUITIVE TYPES		
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING	
I S T J N= 8 %= 4.65 I= 0.83	I S F J N= 10 %= 5.81 I= 0.98	I N F J N= 12 %= 6.98 I= 1.43	I N T J N= 4 %= 2.33 I= 1.33	JUDGING INTROVERTS
I S T P N= 2 %= 1.16 I= 0.83	I S F P N= 3 %= 1.74 I= 0.72	I N F P N= 24 %=13.95 I= 1.08	I N T P N= 1 %= 0.58 I= 0.42	PERCEPTIVES
E S T P N= 1 %= 0.58 I= 0.42	E S F P N= 7 %= 4.07 I= 0.97	E N F P N= 34 %=19.77 I= 1.07	E N T P N= 11 %= 6.40 I= 1.31	EXTRAVERTS
E S T J N= 15 %= 8.72 I= 1.04	E S F J N= 14 %= 8.14 I= 0.87	E N F J N= 20 %=11.63 I= 0.98	E N T J N= 6 %= 3.49 I= 0.67	JUDGING

	N	%	I
E	108	62.79	0.98
I	64	37.21	1.03
S	60	34.88	0.90
N	112	65.12	1.06
T	48	27.91	0.93
F	124	72.09	1.03
J	89	51.74	0.98
P	83	48.26	1.03
IJ	34	19.77	1.09
IP	30	17.44	0.96
EP	53	30.81	1.07
EJ	55	31.98	0.92
ST	26	15.12	0.90
SF	34	19.77	0.90
NF	90	52.33	1.09
NT	22	12.79	0.97
SJ	47	27.33	0.93
SP	13	7.56	0.80
NP	70	40.70	1.08
NJ	42	24.42	1.03
TJ	33	19.19	0.92
TP	15	8.72	0.96
FP	68	39.53	1.04
FJ	56	32.56	1.02
IN	41	23.84	1.14
EN	71	41.28	1.02
IS	23	13.37	0.87
ES	37	21.51	0.92

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
SCHOOL RELATED COUNSELORS
BASE TOTAL N = 287. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.70	0.01	0.05	0.42
1.00	0.44	0.43	0.31
0.21	1.00	0.48	0.17
0.07	0.81	0.02	2.62

E	0.18	IJ	0.79	SJ	0.78	IN	2.23
I	0.18	IP	0.13	SP	1.72	EN	0.13
		EP	0.75	NP	1.72	IS	1.27
S	2.60	EJ	1.55	NJ	0.12	ES	0.81
N	2.60						
		ST	0.80	TJ	0.77		
T	0.87	SF	1.19	TP	0.06		
F	0.87	NF	3.09	FP	0.44		
		NT	0.08	FJ	0.05		
J	0.26						
P	0.26						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

UNIVERSITY
AND
JUNIOR COLLEGE
COUNSELORS

N= 67

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE N-16

	SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING
JUDGING INTROVERTS	I S T J N= 7 %=10.45 I= 1.80	I S F J N= 2 %= 2.99 I= 0.51	I N F J N= 3 %= 4.48 I= 0.71	I N T J N= 1 %= 1.49 I= 0.45
PERCEPTIVES INTROVERTS	I S T P N= 1 %= 1.49 I= 0.90	I S F P N= 3 %= 4.48 I= 1.35	I N F P N= 5 %= 7.46 I= 0.56	I N T P N= 2 %= 2.99 I= 0.86
PERCEPTIVES EXTRAVERTS	E S T P N= 0 %= 0.0 I= 0.0	E S F P N= 3 %= 4.48 I= 1.20	E N F P N= 12 %=17.91 I= 0.99	E N T P N= 3 %= 4.48 I= 0.90
JUDGING EXTRAVERTS	E S T J N= 8 %=11.94 I= 1.66	E S F J N= 4 %= 5.97 I= 0.92	E N F J N= 7 %=10.45 I= 1.02	E N T J N= 6 %= 8.96 I= 1.80

	N	%	I
E	43	64.18	1.13
I	24	35.82	0.83
S	28	41.79	1.19
N	39	58.21	0.90
T	28	41.79	1.28
F	39	58.21	0.86
J	38	56.72	1.13
P	29	43.28	0.87
IJ	13	19.40	0.91
IP	11	16.42	0.76
EP	18	26.87	0.96
EJ	25	37.31	1.29
ST	16	23.88	1.50
SF	12	17.91	0.93
NF	27	40.30	0.84
NT	12	17.91	1.07
SJ	21	31.34	1.24
SP	7	10.45	1.05
NP	22	32.84	0.82
NJ	17	25.37	1.02
TJ	22	32.84	1.54"
TP	6	8.96	0.79
FP	23	34.33	0.89
FJ	16	23.88	0.83
IN	11	16.42	0.62
EN	28	41.79	1.09
IS	13	19.40	1.17
ES	15	22.39	1.20

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN PSYCHOLOGICAL SERVICES
BASE TOTAL N = 1206. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

2.80	0.42	0.61	0.51
0.55	0.72	0.19	0.99
0.62	0.99	0.00	0.99
2.37	0.99	0.00	2.38

E	1.47
I	1.47
S	1.33
N	1.33
T	2.68
F	2.68
J	1.22
P	1.22

IJ	0.14
IP	1.17
EP	0.05
EJ	2.42
ST	3.36
SF	0.09
NF	1.69
NT	0.07

SJ	1.38
SP	0.02
NP	1.47
NJ	0.01
TJ	5.62
TP	0.41
FP	0.52
FJ	0.86

IN	3.62
EN	0.35
IS	0.41
ES	0.65

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

EMPLOYMENT
AND
VOCATIONAL
COUNSELORS

N= 53

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE N-17

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 3 %= 5.66 I= 0.98	I S F J N= 4 %= 7.55 I= 1.30	I N F J N= 6 %= 11.32 I= 1.80	I N T J N= 1 %= 1.89 I= 0.57	JUDGING INTROVERTS
I S T P N= 2 %= 3.77 I= 2.28	I S F P N= 3 %= 5.66 I= 1.71	I N F P N= 1 %= 1.89 I= 0.14"	I N T P N= 1 %= 1.89 I= 0.54	PERCEPTIVES INTROVERTS
E S T P N= 2 %= 3.77 I= 3.03	E S F P N= 3 %= 5.66 I= 1.52	E N F P N= 9 %= 16.98 I= 0.94	E N T P N= 3 %= 5.66 I= 1.14	PERCEPTIVES EXTRAVERTS
E S T J N= 4 %= 7.55 I= 1.05	E S F J N= 4 %= 7.55 I= 1.17	E N F J N= 6 %= 11.32 I= 1.10	E N T J N= 1 %= 1.89 I= 0.38	JUDGING EXTRAVERTS

	N	%	I
E	32	60.38	1.06
I	21	39.62	0.92
S	25	47.17	1.34
N	28	52.83	0.82
T	17	32.08	0.98
F	36	67.92	1.01
J	29	54.72	1.09
P	24	45.28	0.91
IJ	14	26.42	1.24
IP	7	13.21	0.61
EP	17	32.08	1.14
EJ	15	28.30	0.98
ST	11	20.75	1.30
SF	14	26.42	1.37
NF	22	41.51	0.86
NT	6	11.32	0.68
SJ	15	28.30	1.12
SP	10	18.87	1.90"
NP	14	26.42	0.66"
NJ	14	26.42	1.06
TJ	9	16.98	0.80
TP	8	15.09	1.33
FP	16	30.19	0.78
FJ	20	37.74	1.31
IN	9	16.98	0.64
EN	19	35.85	0.93
IS	12	22.64	1.37
ES	13	24.53	1.31

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULAT[illegible] SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN PSY[illegible]OLOGICAL SERVICES
BASE TOTAL N = 1206. SAMPLE AND BA[illegible] ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.99	0.76	2.36	0.72
0.22	0.41	0.01	0.71
0.14	0.44	C.05	0.99
0.99	0.76	C.06	0.36

E	0.25	[illegible]	0.89	SJ	0.27	IN	2.52
I	0.25	IP	[illegible].36	SP	4.92	EN	0.15
		EP	[illegible].43	NP	4.19	IS	1.47
S	3.46	FJ	0.01	NJ	0.07	ES	1.26
N	3.46						
		ST	0.97	TJ	0.62		
T	0.01	SF	1.79	TP	0.77		
F	0.01	NF	0.94	FP	1.61		
		NT	1.17	FJ	2.13		
J	0.46						
P	0.46						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

PARAPROFESSIONAL
AND VOLUNTEER
COUNSELING SERVICES

N= 126

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX;
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

TABLE N-18

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 9 %= 7.14 I= 1.47	I S F J N= 16 %=12.70 I= 2.13*	I N F J N= 5 %= 3.97 I= 0.69	I N T J N= 3 %= 2.38 I= 0.64	JUDGING	INTROVERTS
I S T P N= 1 %= 0.79 I= 0.41	I S F P N= 8 %= 6.35 I= 1.77	I N F P N= 13 %=10.32 I= 0.66	I N T P N= 1 %= 0.79 I= 0.20	PERCEPTIVES	
E S T P N= 3 %= 2.38 I= 1.46	E S F P N= 8 %= 6.35 I= 1.79	E N F P N= 11 %= 8.73 I= 0.46#	E N T P N= 8 %= 6.35 I= 1.23		EXTRAVERTS
E S T J N= 15 %=11.90 I= 2.13#	E S F J N= 15 %=11.90 I= 2.00#	E N F J N= 6 %= 4.76 I= 0.51	E N T J N= 4 %= 3.17 I= 0.71	JUDGING	

	N	%	I
E	70	55.56	1.02
I	56	44.44	0.98
S	75	59.52	1.80*
N	51	40.48	0.60*
T	44	34.92	1.11
F	82	65.08	0.95
J	73	57.94	1.27#
P	53	42.06	0.77#
IJ	33	26.19	1.29
IP	23	18.25	0.72
EP	30	23.81	0.82
EJ	40	31.75	1.25
ST	28	22.22	1.59#
SF	47	37.30	1.96*
NF	35	27.78	0.56*
NT	16	12.70	0.73
SJ	55	43.65	1.95*
SP	20	15.87	1.49
NP	33	26.19	0.60*
NJ	18	14.29	0.61"
TJ	31	24.60	1.32
TP	13	10.32	0.81
FP	40	31.75	0.76"
FJ	42	33.33	1.24
IN	22	17.46	0.60#
EN	29	23.02	0.61*
IS	34	26.98	1.65*
ES	41	32.54	1.95*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E.. CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E.. CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E.. CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS AND PRACTITIONERS IN PSYCHOLOGICAL SERVICES
BASE TOTAL N = 2453. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

1.51	10.80	0.44	0.48
0.51	2.93	2.90	0.06
0.72	3.05	8.87	0.37
10.06	8.41	3.24	0.52

E	0.06	IJ	2.85	SJ	34.77	IN	8.84
I	0.06	IP	3.39	SP	3.75	EN	12.33
		EP	1.86	NP	16.55	IS	11.10
S	42.18	EJ	2.90	NJ	6.01	ES	23.90
N	42.18						
		ST	7.50	TJ	3.13		
T	0.79	SF	28.74	TP	0.69		
F	0.79	NF	25.33	FP	5.37		
		NT	2.02	FJ	2.71		
J	8.13						
P	8.13						

SOURCE OF DATA:

HILLIARD, T. R. PH. D.
DOCTORAL DISSERTATION
UNIVERSITY OF FLORIDA 1972
TABLE PREPARED FOR
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

GROUP
TABULATED:

COUNSELORS
REHABILITATION

HILLIARD SAMPLE

N= 92

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE N-19

SENSING TYPES		INTUITIVE TYPES		
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING	
I S T J N= 8 %= 8.70 I= 1.50	I S F J N= 2 %= 2.17 I= 0.37	I N F J N= 1 %= 1.09 I= 0.17"	I N T J N= 5 %= 5.43 I= 1.64	JUDGING INTROVERTS
I S T P N= 5 %= 5.43 I= 3.28"	I S F P N= 4 %= 4.35 I= 1.31	I N F P N= 9 %= 9.78 I= 0.74	I N T P N= 1 %= 1.09 I= 0.31	PERCEPTIVES
E S T P N= 6 %= 6.52 I= 5.24*	E S F P N= 5 %= 5.43 I= 1.46	E N F P N= 13 %=14.13 I= 0.78	E N T P N= 2 %= 2.17 I= 0.44	EXTRAVERTS
E S T J N= 9 %= 9.78 I= 1.36	E S F J N= 11 %=11.96 I= 1.85"	E N F J N= 6 %= 6.52 I= 0.63	E N T J N= 5 %= 5.43 I= 1.09	JUDGING

	N	%	I
E	57	61.96	1.09
I	35	38.04	0.89
S	50	54.35	1.54*
N	42	45.65	0.70*
T	41	44.57	1.36"
F	51	55.43	0.82"
J	47	51.09	1.02
P	45	48.91	0.98
IJ	16	17.39	0.82
IP	19	20.65	0.95
EP	26	28.26	1.01
EJ	31	33.70	1.16
ST	28	30.43	1.91*
SF	22	23.[illegible]	1.24
NF	29	31.52	0.66*
NT	13	14.13	0.84
SJ	30	32.61	1.29
SP	20	21.74	2.18*
NP	25	27.17	0.68#
NJ	17	18.48	0.74
TJ	27	29.35	1.38"
TP	14	15.22	1.34
FP	31	33.70	0.88
FJ	20	21.74	0.75
IN	16	17.39	0.66"
EN	26	28.26	0.74"
IS	19	20.65	1.25
ES	31	33.70	1.81*

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN PSYCHOLOGICAL AND COUNSELING SERVICES - CAPT
BASE TOTAL N = 1206, SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

1.52	0.16	0.04	0.36
0.01	0.76	1.05	0.25
22.59	0.38	1.09	0.22
0.98	4.96	1.53	0.99

E	0.98	IJ	0.88	SJ	2.82	IN	4.13
I	0.98	IP	0.07	SP	15.45	EN	4.32
S	15.93	EP	0.00	NP	6.71	IS	1.19
N	15.93	EJ	1.10	NJ	2.18	ES	14.84
T	6.41	ST	15.67	TJ	3.84		
F	6.41	SF	1.35	TP	1.47		
J	0.03	NF	10.85	FP	0.96		
P	0.03	NT	0.49	FJ	2.46		

SOURCE OF DATA:

HILLIARD, T. R. PH. D.
DOCTORAL DISSERTATION
UNIVERSITY OF FLORIDA 1972
TABLE PREPARED FOR
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

GROUP
TABULATED:

COUNSELORS
REHABILITATION:
HIGH PERFORMING
GROUP

N= 53

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE N-20

SENSING TYPES WITH THINKING	 WITH FEELING	INTUITIVE TYPES WITH FEELING	 WITH THINKING	
I S T J N= 5 %= 9.43 I= 1.08	I S F J N= 1 %= 1.89 I= 0.87	I N F J N= 1 %= 1.89 I= 1.74	I N T J N= 1 %= 1.89 I= 0.35	JUDGING INTROVERTS
I S T P N= 5 %= 9.43 I= 1.74	I S F P N= 2 %= 3.77 I= 0.87	I N F P N= 4 %= 7.55 I= 0.77	I N T P N= 1 %= 1.89 I= 1.74	PERCEPTIVES
E S T P N= 2 %= 3.77 I= 0.56	E S F P N= 3 %= 5.66 I= 1.04	E N F P N= 7 %=13.21 I= 0.93	E N T P N= 1 %= 1.89 I= 0.87	EXTRAVERTS
E S T J N= 6 %=11.32 I= 1.16	E S F J N= 7 %=13.21 I= 1.10	E N F J N= 4 %= 7.55 I= 1.16	E N T J N= 3 %= 5.66 I= 1.04	JUDGING

	N	%	I
E	33	62.26	1.00
I	20	37.74	0.99
S	31	58.49	1.08
N	22	41.51	0.91
T	24	45.28	1.02
F	29	54.72	0.99
J	28	52.83	1.03
P	25	47.17	0.96
IJ	8	15.09	0.87
IP	12	22.64	1.10
EP	13	24.53	0.87
EJ	20	37.74	1.12
ST	18	33.96	1.12
SF	13	24.53	1.03
NF	16	30.19	0.96
NT	6	11.32	0.80
SJ	19	35.85	1.10
SP	12	22.64	1.04
NP	13	24.53	0.90
NJ	9	16.98	0.92
TJ	15	28.30	0.96
TP	9	16.98	1.12
FP	16	30.19	0.90
FJ	13	24.53	1.13
IN	7	13.21	0.76
EN	15	28.30	1.00
IS	13	24.53	1.19
ES	18	33.96	1.01

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
HILLIARD SAMPLE OF REHABILITATION COUNSELORS IN FLORIDA STATE AGENCIES
BASE TOTAL N = 92. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

1.00	1.00	1.00	0.16
0.07	1.00	0.49	1.00
0.40	1.00	0.09	1.00
0.73	0.75	0.70	1.00

E	0.01	IJ	0.46	SJ	0.60	IN	1.52
I	0.01	IP	0.30	SP	0.06	EN	0.00
		EP	0.86	NP	0.44	IS	1.15
S	0.86	FJ	0.91	NJ	0.19	ES	0.00
N	0.86						
		ST	0.73	TJ	0.07		
T	0.03	SF	0.03	TP	0.77		
F	0.03	NF	0.10	FP	0.69		
		NT	0.81	FJ	0.57		
J	0.15						
P	0.15						

Appendix O

Radiologic Technology

Table Number	Name of Group Tabulated	Number in Group	Compared to Base
O 1	All Students and Practitioners	267	32,271
O 2	Radiologic Technology Students	214	6,738
O 3	Radiologic Technologists	53	267
O 4	Students & Practitioners: Males	30	3,907
O 5	Students & Practitioners: Females	144	2,831

Note: Sex is known for only 174 of the 267 in the composite sample.

```
SOURCE OF DATA:                     GROUP               MBTI TYPE TABLE
                                  TABULATED:        CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                             OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS        COMPOSITE:  STUDENTS
 HEW CONTRACT 231-76-0051       AND PRACTITIONERS IN   LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT            RADIOLOGIC         TOTAL CHOOSING THIS GROUP
                                    TECHNOLOGY         WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                 I = SELFSELECTION INDEX;
                                                       RATIO OF PERCENT OF TYPE
                                    N=  267            IN GROUP TO % IN SAMPLE.
 TABLE O-1

      SENSING TYPES            INTUITIVE TYPES
 WITH          WITH          WITH          WITH                        N     %       I
 THINKING      FEELING       FEELING       THINKING
 --------------------------------------------------------        E    162  60.67   1.16#
| I S T J     | I S F J     | I N F J     | I N T J     |  J     I    105  39.33   0.83#
|             |             |             |             |  U
|             |             |             |             |  D     S    161  60.30   1.17#
| N=  20      | N=  25      | N=   5      | N=   6      |  G     N    106  39.70   0.82#
|             |             |             |             |  I
| %= 7.49     | %= 9.36     | %= 1.87     | %= 2.25     |  N I   T     87  32.58   0.90
|             |             |             |             |  G N   F    180  67.42   1.06
| I= 0.90     | I= 0.89     | I= 0.35"    | I= 0.55     |    T
|             |             |             |             |    R   J    133  49.81   0.84#
 --------------------------------------------------------    O   P    134  50.19   1.23#
| I S T P     | I S F P     | I N F P     | I N T P     |    V
|             |             |             |             |    E   IJ    56  20.97   0.74#
|             |             |             |             |    R   IP    49  18.35   0.95
| N=   4      | N=  22      | N=  18      | N=   5      |    T
|             |             |             |             |    S   EP    85  31.84   1.48*
| %= 1.50     | %= 8.24     | %= 6.74     | %= 1.87     |  P     EJ    77  28.84   0.93
|             |             |             |             |  E
| I= 0.64     | I= 1.81#    | I= 0.77     | I= 0.51     |  R     ST    56  20.97   1.03
|             |             |             |             |  C     SF   105  39.33   1.27#
 --------------------------------------------------------  E
| E S T P     | E S F P     | E N F P     | E N T P     |  P     NF    75  28.09   0.86
|             |             |             |             |  T     NT    31  11.61   0.73"
|             |             |             |             |  I
| N=  10      | N=  24      | N=  37      | N=  14      |  V     SJ   101  37.83   1.00
|             |             |             |             |  E     SP    60  22.47   1.67*
| %= 3.75     | %= 8.99     | %=13.86     | %= 5.24     |  S E
|             |             |             |             |    X   NP    74  27.72   1.01
| I= 1.95"    | I= 1.95*    | I= 1.22     | I= 1.45     |    T   NJ    32  11.99   0.56*
|             |             |             |             |    R
 --------------------------------------------------------    A   TJ    54  20.22   0.82
| E S T J     | E S F J     | E N F J     | E N T J     |  J V   TP    33  12.36   1.07
|             |             |             |             |  U E
|             |             |             |             |  D R   FP   101  37.83   1.29#
| N=  22      | N=  34      | N=  15      | N=   6      |  G T   FJ    79  29.59   0.86
|             |             |             |             |  I S
| %= 8.24     | %=12.73     | %= 5.62     | %= 2.25     |  N     IN    34  12.73   0.58*
|             |             |             |             |  G     EN    72  26.97   1.01
| I= 1.06     | I= 1.13     | I= 0.77     | I= 0.49     |
|             |             |             |             |        IS    71  26.59   1.03
 --------------------------------------------------------        ES    90  33.71   1.32#

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COMPOSITE OF STUDENTS & PRACTITIONERS IN ALL HEALTH AND HEALTH RELATED FIELDS.
   BASE TOTAL N = 22271. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

       TYPE TABLE ORDER          E    7.44    IJ    7.10    SJ    0.00    IN   13.10
                                 I    7.44    IP    0.17    SP   18.90    EN    0.00
 0.26     0.38     0.01     2.28              EP   17.14    NP    0.02    IS    0.09
                                 S    8.59    EJ    0.53    NJ   13.80    ES    9.31
 0.38     8.37     1.35     0.12 N    8.59
                                              ST    0.06    TJ    2.96
 4.78    11.71     1.73     2.03 T    1.63    SF    8.70    TP    0.16
                                 F    1.63    NF    2.56    FP    9.60
 0.09     0.54     1.07     3.36              NT    3.80    FJ    2.80
                                 J    9.79
                                 P    9.79
```

```
SOURCE OF DATA:                           GROUP                  MBTI TYPE TABLE
                                        TABULATED:         CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                   OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS               COMPOSITE OF
 HEW CONTRACT 231-76-0051              STUDENTS IN         LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT                RADIOLOGIC         TOTAL CHOOSING THIS GROUP
                                        TECHNOLOGY         WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                     I = SELFSELECTION INDEX;
                                                           RATIO OF PERCENT OF TYPE
                                        N=  214            IN GROUP TO % IN SAMPLE.
 TABLE 0-2

     SENSING TYPES             INTUITIVE TYPES
WITH         WITH         WITH         WITH                         N       %      I
THINKING     FEELING      FEELING      THINKING
-----------------------------------------------------       E    131  61.21  1.09
| I S T J    | I S F J    | I N F J    | I N T J    | J     I     83  38.78  0.89
|            |            |            |            | U
|            |            |            |            | D     S    126  58.88  1.03
| N=  16     | N=  16     | N=   5     | N=   4     | G     N     88  41.12  0.96
|            |            |            |            | I
| %= 7.48    | %= 7.48    | %= 2.34    | %= 1.87    | N I   T     66  30.84  0.88
|            |            |            |            | G N   F    148  69.16  1.07
| I= 1.22    | I= 1.02    | I= 0.78    | I= 0.82    |   T
|            |            |            |            |   R   J    106  49.53  1.14
-----------------------------------------------------   O   P    108  50.47  0.89
| I S T P    | I S F P    | I N F P    | I N T P    |   V
|            |            |            |            |   E   IJ    41  19.16  1.02
|            |            |            |            |   R   IP    42  19.63  0.79
| N=   4     | N=  17     | N=  17     | N=   4     |   T
|            |            |            |            |   S   EP    66  30.84  0.98
| %= 1.87    | %= 7.94    | %= 7.94    | %= 1.87    | P     EJ    65  30.37  1.23
|            |            |            |            | E
| I= 0.48    | I= 1.03    | I= 0.85    | I= 0.46    | R     ST    42  19.63  0.91
|            |            |            |            | C     SF    84  39.25  1.11
----------------------------------------------------- E
| E S T P    | E S F P    | E N F P    | E N T P    | P     NF    64  29.91  1.02
|            |            |            |            | T     NT    24  11.21  0.82
|            |            |            |            | I
| N=   5     | N=  22     | N=  28     | N=  11     | V     SJ    78  36.45  1.17
|            |            |            |            | E     SP    48  22.43  0.87
| %= 2.34    | %=10.28    | %=13.08    | %= 5.14    | S E
|            |            |            |            |   X   NP    60  28.04  0.91
| I= 0.53    | I= 1.06    | I= 1.02    | I= 1.13    |   T   NJ    28  13.08  1.07
|            |            |            |            |   R
-----------------------------------------------------   A   TJ    42  19.63  1.08
| E S T J    | E S F J    | E N F J    | E N T J    | J V   TP    24  11.21  0.67"
|            |            |            |            | U E
|            |            |            |            | D R   FP    84  39.25  0.99
| N=  17     | N=  29     | N=  14     | N=   5     | G T   FJ    64  29.91  1.18
|            |            |            |            | I S
| %= 7.94    | %=13.55    | %= 6.54    | %= 2.34    | N     IN    30  14.02  0.75
|            |            |            |            | G     EN    58  27.10  1.11
| I= 1.13    | I= 1.26    | I= 1.56    | I= 0.85    |
|            |            |            |            |       IS    53  24.77  0.99
-----------------------------------------------------       ES    73  34.11  1.07

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
   BASE TOTAL N =  6738. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

       TYPE TABLE ORDER            E   2.08   IJ   0.02   SJ   2.58   IN   2.97
                                   I   2.08   IP   3.18   SP   1.16   EN   0.84
 0.63     0.01     0.64     0.77              EP   0.04   NP   0.74   IS   0.01
                                   S   0.31   EJ   3.52   NJ   0.14   ES   0.48
 0.14     0.01     0.49     0.14   N   0.31
                                              ST   0.43   TJ   0.27
 0.16     0.09     0.01     0.17   T   1.65   SF   1.29   TP   4.75
                                   F   1.65   NF   0.02   FP   0.01
 0.25     1.69     2.83     0.81              NT   1.02   FJ   2.35
                                   J   3.05
                                   P   3.05
```

```
SOURCE OF DATA:                       GROUP                     MBTI TYPE TABLE
                                    TABULATED:              CENTER FOR APPLICATIONS
MARY H. MCCAULLEY, PH.D.                                     OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS            COMPOSITE OF
HEW CONTRACT 231-76-0051         PRACTITIONERS IN           LEGEND: % = PERCENT OF
 AMSA FOUNDATION - CAPT             RADIOLOGIC              TOTAL CHOOSING THIS GROUP
                                    TECHNOLOGY              WHO FALL INTO THIS TYPE.
TABLE CREATED 7/31/77                                       I = SELFSELECTION INDEX;
                                                            RATIO OF PERCENT OF TYPE
                                    N=    53                IN GROUP TO % IN SAMPLE.
TABLE O-3

     SENSING TYPES                INTUITIVE TYPES
WITH                WITH                WITH                WITH                                   N     %       I
THINKING            FEELING             FEELING             THINKING
---------------------------------------------------------------------------------         E       31  58.49    0.96
| I S T J           | I S F J           | I N F J           | I N T J           | J       I       22  41.51    1.06
|                   |                   |                   |                   | U
|                   |                   |                   |                   | D       S       35  66.04    1.10
| N=     4          | N=     9          | N=     0          | N=     2          | G       N       18  33.96    0.86
|                   |                   |                   |                   | I
| %= 7.55           | %=16.98           | %= 0.0            | %= 3.77           | N I     T       21  39.62    1.22
|                   |                   |                   |                   | G N     F       32  60.38    0.90
| I= 1.01           | I= 1.81"          | I= 0.0            | I= 1.68           |   T
|                   |                   |                   |                   |   R     J       27  50.94    1.02
---------------------------------------------------------------------------------   O     P       26  49.06    0.98
| I S T P           | I S F P           | I N F P           | I N T P           |   V
|                   |                   |                   |                   |   E     IJ      15  28.30    1.35
|                   |                   |                   |                   |   R     IP       7  13.21    0.72
| N=     0          | N=     5          | N=     1          | N=     1          |   T
|                   |                   |                   |                   |   S     EP      19  35.85    1.13
| %= 0.0            | %= 9.43           | %= 1.89           | %= 1.89           | P       EJ      12  22.64    0.79
|                   |                   |                   |                   | E
| I= 0.0            | I= 1.14           | I= 0.28           | I= 1.01           | R       ST      14  26.42    1.26
|                   |                   |                   |                   | C       SF      21  39.62    1.01
--------------------------------------------------------------------------------- E
| E S T P           | E S F P           | E N F P           | E N T P           | P       NF      11  20.75    0.74
|                   |                   |                   |                   | T       NT       7  13.21    1.14
|                   |                   |                   |                   | I
| N=     5          | N=     2          | N=     9          | N=     3          | V       SJ      23  43.40    1.15
|                   |                   |                   |                   | E       SP      12  22.64    1.01
| %= 9.43           | %= 3.77           | %=16.98           | %= 5.66           | S E
|                   |                   |                   |                   |   X     NP      14  26.42    0.95
| I= 2.52"          | I= 0.42           | I= 1.23           | I= 1.08           |   T     NJ       4   7.55    0.63
|                   |                   |                   |                   |   R
---------------------------------------------------------------------------------   A     TJ      12  22.64    1.12
| E S T J           | E S F J           | E N F J           | E N T J           | J V     TP       9  16.98    1.37
|                   |                   |                   |                   | U E
|                   |                   |                   |                   | D R     FP      17  32.08    0.85
| N=     5          | N=     5          | N=     1          | N=     1          | G T     FJ      15  28.30    0.96
|                   |                   |                   |                   | I S
| %= 9.43           | %= 9.43           | %= 1.89           | %= 1.89           | N       IN       4   7.55    0.59
|                   |                   |                   |                   | G       EN      14  26.42    0.98
| I= 1.14           | I= 0.74           | I= 0.34           | I= 0.84           |
|                   |                   |                   |                   |         IS      18  33.96    1.28
---------------------------------------------------------------------------------         ES      17  32.08    0.95

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "   IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
         #   IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
         *   IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COMPOSITE OF STUDENTS AND PRACTITIONERS IN RADIOLOGIC TECHNOLOGY
   BASE TOTAL N =   267. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

       TYPE TABLE ORDER              E     0.13      IJ    2.14      SJ    0.87      IN    0.25
                                     I     0.13      IP    1.17      SP    0.00      EN    0.01
  1.00     4.52     0.59     0.60                    EP    0.49      NP    0.06      IS    1.84
                                     S     0.91      EJ    1.24      NJ    0.35      ES    0.08
  0.59     0.78     0.14     1.00    N     0.91
                                                     ST    1.18      TJ    0.24
  0.03     0.18     0.54     1.00    T     1.49      SF    0.00      TP    1.30
                                     F     1.49      NF    1.76      FP    0.93
  0.78     0.50     0.32     1.00                    NT    0.16      FJ    0.05
                                     J     0.03
                                     P     0.03
```

```
SOURCE OF DATA:                      GROUP                    MBTI TYPE TABLE
                                   TABULATED:              CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                   OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS            MALE STUDENTS
 HEW CONTRACT 231-76-0051      AND PRACTITIONERS IN        LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT             RADIOLOGIC            TOTAL CHOOSING THIS GROUP
                                     TECHNOLOGY            WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                     I = SELFSELECTION INDEX;
                                                           RATIO OF PERCENT OF TYPE
                                       N=   30             IN GROUP TO % IN SAMPLE.
 TABLE 0-4

        SENSING TYPES                 INTUITIVE TYPES
 WITH             WITH             WITH             WITH                                N      %       I
 THINKING         FEELING          FEELING          THINKING
-----------------------------------------------------------------         E            17 56.67    1.08
| I S T J       | I S F J       | I N F J       | I N T J       |  J      I            13 43.33    0.91
|               |               |               |               |  U
|               |               |               |               |  D      S            20 66.67    1.15
| N=    3       | N=    3       | N=    0       | N=    0       |  G      N            10 33.33    0.80
|               |               |               |               |  I
| %=10.00       | %=10.00       | %= 0.0        | %= 0.0        |  N I    T            19 63.33    1.39"
|               |               |               |               |  G N    F            11 36.67    0.67"
| I= 1.23       | I= 1.56       | I= 0.0        | I= 0.0        |    T
|               |               |               |               |    R    J            14 46.67    1.04
-----------------------------------------------------------------    O    P            16 53.33    0.96
| I S T P       | I S F P       | I N F P       | I N T P       |    V
|               |               |               |               |    E    IJ            6 20.00    0.96
|               |               |               |               |    R    IP            7 23.33    0.87
| N=    2       | N=    2       | N=    2       | N=    1       |    T
|               |               |               |               |    S    EP            9 30.00    1.05
| %= 6.67       | %= 6.67       | %= 6.67       | %= 3.33       |  P      EJ            8 26.67    1.12
|               |               |               |               |  E
| I= 1.24       | I= 0.87       | I= 0.77       | I= 0.65       |  R      ST           12 40.00    1.42
|               |               |               |               |  C      SF            8 26.67    0.89
-----------------------------------------------------------------  E
| E S T P       | E S F P       | E N F P       | E N T P       |  P      NF            3 10.00    0.41
|               |               |               |               |  T      NT            7 23.33    1.35
|               |               |               |               |  I
| N=    2       | N=    2       | N=    1       | N=    4       |  V      SJ           12 40.00    1.27
|               |               |               |               |  E      SP            8 26.67    1.00
| %= 6.67       | %= 6.67       | %= 3.33       | %=13.33       |  S E
|               |               |               |               |    X    NP            8 26.67    0.93
| I= 1.21       | I= 0.84       | I= 0.35       | I= 2.43       |    T    NJ            2  6.67    0.51
|               |               |               |               |    R
-----------------------------------------------------------------    A    TJ           10 33.33    1.39
| E S T J       | E S F J       | E N F J       | E N T J       |  J V    TP            9 30.00    1.40
|               |               |               |               |  U E
|               |               |               |               |  D R    FP            7 23.33    0.69
| N=    5       | N=    1       | N=    0       | N=    2       |  G T    FJ            4 13.33    0.64
|               |               |               |               |  I S
| %=16.67       | %= 3.33       | %= 0.0        | %= 6.67       |  N      IN            3 10.00    0.50
|               |               |               |               |  G      EN            7 23.33    1.07
| I= 1.82       | I= 0.42       | I= 0.0        | I= 1.93       |
|               |               |               |               |         IS           10 33.33    1.21
-----------------------------------------------------------------         ES           10 33.33    1.09

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
          "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
          #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
          *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   MALE HIGH SCHOOL JUNIORS AND SENIORS ON THE CAPT DATA BANK
   BASE TOTAL N =  3907. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER                E    0.23    IJ   0.01    SJ   0.97    IN   0.18
                                        I    0.23    IP   0.18    SP   0.00    EN   0.04
 0.72     0.44     0.62     0.62                     EP   0.03    NP   0.06    IS   0.49
                                        S    0.89    EJ   0.14    NJ   0.41    ES   0.11
 0.99     0.99     0.76     0.73        N    0.89
                                                     ST   2.05    TJ   1.44
 0.99     0.99     0.35     0.08        T    3.85    SF   0.16    TP   1.27
                                        F    3.85    NF   0.09    FP   1.46
 0.19     0.51     0.62     0.62                     NT   0.77    FJ   0.37
                                        J    0.05
                                        P    0.05
```

SOURCE OF CATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

FEMALE STUDENTS
AND PRACTITIONERS IN
RADIOLOGIC
TECHNOLOGY

N= 144

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE 0-5

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 11 %= 7.64 I= 2.25#	I S F J N= 16 %=11.11 I= 1.29	I N F J N= 2 %= 1.39 I= 0.50	I N T J N= 1 %= 0.69 I= 0.68	JUDGING INTROVERTS
I S T P N= 2 %= 1.39 I= 0.76	I S F P N= 14 %= 9.72 I= 1.25	I N F P N= 11 %= 7.64 I= 0.74	I N T P N= 1 %= 0.69 I= 0.28	PERCEPTIVES INTROVERTS
E S T P N= 4 %= 2.78 I= 0.97	E S F P N= 17 %=11.81 I= 0.98	E N F P N= 25 %=17.36 I= 0.99	E N T P N= 2 %= 1.39 I= 0.43	PERCEPTIVES EXTRAVERTS
E S T J N= 6 %= 4.17 I= 1.00	E S F J N= 22 %=15.28 I= 1.04	E N F J N= 7 %= 4.86 I= 0.89	E N T J N= 3 %= 2.08 I= 1.16	JUDGING EXTRAVERTS

	N	%	I
E	86	59.72	0.97
I	58	40.28	1.05
S	92	63.89	1.15"
N	52	36.11	0.81"
T	30	20.83	1.00
F	114	79.17	1.00
J	68	47.22	1.13
P	76	52.78	0.91
IJ	30	20.83	1.32
IP	28	19.44	0.87
EP	48	33.33	0.94
EJ	38	26.39	1.01
ST	23	15.97	1.30
SF	69	47.92	1.11
NF	45	31.25	0.87
NT	7	4.86	0.57
SJ	55	38.19	1.24
SP	37	25.69	1.05
NP	39	27.08	0.81
NJ	13	9.03	0.81
TJ	21	14.58	1.40
TP	9	6.25	0.60
FP	67	46.53	0.98
FJ	47	32.64	1.04
IN	15	10.42	0.62"
EN	37	25.69	0.92
IS	43	29.86	1.38"
ES	49	34.03	1.01

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
FEMALE HIGH SCHOOL JUNIORS AND SENIORS ON THE CAPT DATA BANK
BASE TOTAL N = 2831. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

7.13	1.07	0.43	1.00
0.77	0.72	1.10	0.26
0.99	0.01	0.00	0.24
0.00	0.05	0.10	0.99

E	0.23	IJ	2.55	SJ	3.49	IN	3.92
I	0.23	IP	0.72	SP	0.10	EN	0.37
		EP	0.32	NP	2.61	IS	5.42
S	4.08	EJ	0.01	NJ	0.60	ES	0.01
N	4.08						
		ST	1.74	TJ	2.55		
T	0.00	SF	1.32	TP	2.63		
F	0.00	NF	1.40	FP	0.07		
		NT	2.47	FJ	0.08		
J	1.60						
P	1.60						

Appendix P

Respiratory Therapy

Table Number	Name of Group Tabulated	Number in Group	Compared to Base
P 1	All Students and Practitioners	480	32,271
P 2	Respiratory Therapy Students	353	6,738
P 3	Respiratory Therapists	127	480
P 4	Students and Practitioners: Males	150	3,907
P 5	Students and Practitioners: Females	124	2,831

Note: Sex is known for only 274 of the 480 in the composite sample.

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

COMPOSITE OF
STUDENTS AND
PRACTITIONERS IN
RESPIRATORY THERAPY

N= 480

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX;
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

TABLE P-1

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 44 %= 9.17 I= 1.10	I S F J N= 47 %= 9.79 I= 0.93	I N F J N= 16 %= 3.33 I= 0.62"	I N T J N= 15 %= 3.13 I= 0.77	JUDGING	INTROVERTS
I S T P N= 12 %= 2.50 I= 1.07	I S F P N= 32 %= 6.67 I= 1.46"	I N F P N= 20 %= 4.17 I= 0.48*	I N T P N= 24 %= 5.00 I= 1.35	PERCEPTIVES	INTROVERTS
E S T P N= 12 %= 2.50 I= 1.30	E S F P N= 41 %= 8.54 I= 1.85*	E N F P N= 49 %=10.21 I= 0.90	E N T P N= 34 %= 7.08 I= 1.96*	PERCEPTIVES	EXTRAVERTS
E S T J N= 40 %= 8.33 I= 1.08	E S F J N= 52 %=10.83 I= 0.96	E N F J N= 24 %= 5.00 I= 0.69	E N T J N= 18 %= 3.75 I= 0.82	JUDGING	EXTRAVERTS

	N	%	I
E	270	56.25	1.07
I	210	43.75	0.92
S	280	58.33	1.14#
N	200	41.67	0.86#
T	199	41.46	1.14"
F	281	58.54	0.92"
J	256	53.33	0.90#
P	224	46.67	1.14#
IJ	122	25.42	0.90
IP	88	18.33	0.95
EP	136	28.33	1.32*
EJ	134	27.92	0.90
ST	108	22.50	1.11
SF	172	35.83	1.16"
NF	109	22.71	0.70*
NT	91	18.96	1.19
SJ	183	38.12	1.00
SP	97	20.21	1.50*
NP	127	26.46	0.97
NJ	73	15.21	0.72#
TJ	117	24.37	0.98
TP	82	17.08	1.48*
FP	142	29.58	1.01
FJ	139	28.96	0.84"
IN	75	15.62	0.72*
EN	125	26.04	0.97
IS	135	28.12	1.09
ES	145	30.21	1.18"

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS & PRACTITIONERS IN ALL HEALTH AND HEALTH RELATED FIELDS.
BASE TOTAL N = 32271. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.42	0.27	3.91	1.10
0.05	4.56	12.80	2.34
0.88	17.08	0.60	16.72
0.24	0.11	3.67	0.77

E	2.94	IJ	1.98	SJ	0.01	IN	11.06
I	2.94	IP	0.32	SP	19.21	EN	0.13
		EP	13.59	NP	0.21	IS	1.40
S	9.45	EJ	2.02	NJ	10.61	ES	5.45
N	9.45						
		ST	1.37	TJ	0.04		
T	5.55	SF	5.29	TP	14.43		
F	5.55	NF	21.96	FP	0.03		
		NT	3.26	FJ	6.48		
J	6.90						
P	6.90						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

COMPOSITE OF
STUDENTS IN

RESPIRATORY THERAPY

N= 353

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX:
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

TABLE P-2

	SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING
INTROVERTS JUDGING	ISTJ N= 30 %= 8.50 I= 1.38	ISFJ N= 37 %=10.48 I= 1.43"	INFJ N= 13 %= 3.68 I= 1.22	INTJ N= 10 %= 2.83 I= 1.24
INTROVERTS PERCEPTIVES	ISTP N= 6 %= 1.70 I= 0.44"	ISFP N= 26 %= 7.37 I= 0.95	INFP N= 11 %= 3.12 I= 0.33*	INTP N= 13 %= 3.68 I= 0.92
EXTRAVERTS PERCEPTIVES	ESTP N= 6 %= 1.70 I= 0.39"	ESFP N= 28 %= 7.93 I= 0.82	ENFP N= 40 %=11.33 I= 0.88	ENTP N= 24 %= 6.80 I= 1.50"
EXTRAVERTS JUDGING	ESTJ N= 32 %= 9.07 I= 1.29	ESFJ N= 43 %=12.18 I= 1.13	ENFJ N= 20 %= 5.67 I= 1.35	ENTJ N= 14 %= 3.97 I= 1.44

	N	%	I
E	207	58.64	1.04
I	146	41.36	0.95
S	208	58.92	1.03
N	145	41.08	0.95
T	135	38.24	1.09
F	218	61.76	0.95
J	199	56.37	1.30*
P	154	43.63	0.77*
IJ	90	25.50	1.36#
IP	56	15.86	0.64*
EP	98	27.76	0.88
EJ	109	30.88	1.25#
ST	74	20.96	0.98
SF	134	37.96	1.07
NF	84	23.80	0.81"
NT	61	17.28	1.27"
SJ	142	40.23	1.29*
SP	66	18.70	0.73#
NP	88	24.93	0.81"
NJ	57	16.15	1.32"
TJ	86	24.36	1.34#
TP	49	13.88	0.82
FP	105	29.75	0.75*
FJ	113	32.01	1.27#
IN	47	13.31	0.71"
EN	98	27.76	1.14
IS	99	28.05	1.12
ES	109	30.88	0.97

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
BASE TOTAL N = 6739. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

3.17	4.80	0.51	0.44
4.42	0.06	15.85	0.10
6.01	1.18	0.72	3.85
2.05	0.72	1.80	1.78

E	0.78	IJ	9.80	SJ	12.42	IN	6.41
I	0.78	IP	15.05	SP	8.67	EN	2.09
S	0.53	EP	2.19	NP	5.45	IS	1.56
N	0.53	EJ	6.73	NJ	4.69	ES	0.15
T	1.45	ST	0.06	TJ	8.32		
F	1.45	SF	0.91	TP	2.14		
J	22.49	NF	5.16	FP	13.75		
P	22.49	NT	3.80	FJ	7.99		

```
SOURCE OF DATA:                     GROUP                  MBTI TYPE TABLE
                                  TABULATED:          CENTER FOR APPLICATIONS
MARY H. MCCAULLEY, PH.D.                                OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS          COMPOSITE OF
HEW CONTRACT 231-76-0051       PRACTITIONERS IN       LEGEND: % = PERCENT OF
 AMSA FOUNDATION -- CAPT                              TOTAL CHOOSING THIS GROUP
                             RESPIRATORY THERAPY      WHO FALL INTO THIS TYPE.
TABLE CREATED 7/31/77                                 I = SELFSELECTION INDEX;
                                                      RATIO OF PERCENT OF TYPE
                                 N=  127              IN GROUP TO % IN SAMPLE.
TABLE P-3

   SENSING TYPES                       INTUITIVE TYPES
WITH              WITH              WITH              WITH                       N     %      I
THINKING          FEELING           FEELING           THINKING
-------------------------------------------------------------------------      E   63 49.61  0.88
| I S T J         | I S F J         | I N F J         | I N T J         | J    I   64 50.39  1.15
|                 |                 |                 |                 | U
|                 |                 |                 |                 | D    S   72 56.69  0.97
| N=  14          | N=  10          | N=   3          | N=   5          | G    N   55 43.31  1.04
|                 |                 |                 |                 | I
| %=11.02         | %= 7.87         | %= 2.36         | %= 3.94         | N I  T   64 50.39  1.22"
|                 |                 |                 |                 | G N  F   63 49.61  0.85"
| I= 1.20         | I= 0.80         | I= 0.71         | I= 1.26         |   T
|                 |                 |                 |                 |   R  J   57 44.88  0.84"
-------------------------------------------------------------------------   O  P   70 55.12  1.18"
| I S T P         | I S F P         | I N F P         | I N T P         |   V
|                 |                 |                 |                 |   E  IJ  32 25.20  0.99
|                 |                 |                 |                 |   R  IP  32 25.20  1.37"
| N=   6          | N=   6          | N=   9          | N=  11          |   T
|                 |                 |                 |                 |   S  EP  38 29.92  1.06
| %= 4.72         | %= 4.72         | %= 7.09         | %= 8.66         | P    EJ  25 19.69  0.71"
|                 |                 |                 |                 | E
| I= 1.89         | I= 0.71         | I= 1.70         | I= 1.73"        | R    ST  34 26.77  1.19
|                 |                 |                 |                 | C    SF  38 29.92  0.84
------------------------------------------------------------------------- E
| E S T P         | E S F P         | E N F P         | E N T P         | P    NF  25 19.69  0.87
|                 |                 |                 |                 | T    NT  30 23.62  1.25
|                 |                 |                 |                 | I
| N=   6          | N=  13          | N=   9          | N=  10          | V    SJ  41 32.28  0.85
|                 |                 |                 |                 | E    SP  31 24.41  1.21
| %= 4.72         | %=10.24         | %= 7.09         | %= 7.87         | S E
|                 |                 |                 |                 |   X  NP  39 30.71  1.16
| I= 1.89         | I= 1.20         | I= 0.69         | I= 1.11         |   T  NJ  16 12.60  0.83
|                 |                 |                 |                 |   R
-------------------------------------------------------------------------   A  TJ  31 24.41  1.00
| E S T J         | E S F J         | E N F J         | E N T J         | J V  TP  33 25.98  1.52#
|                 |                 |                 |                 | U E
|                 |                 |                 |                 | D R  FP  37 29.13  0.98
| N=   8          | N=   9          | N=   4          | N=   4          | G T  FJ  26 20.47  0.71"
|                 |                 |                 |                 | I S
| %= 6.30         | %= 7.09         | %= 3.15         | %= 3.15         | N    IN  28 22.05  1.41"
|                 |                 |                 |                 | G    EN  27 21.26  0.82
| I= 0.76         | I= 0.65         | I= 0.63         | I= 0.84         |
|                 |                 |                 |                 |      IS  36 28.35  1.01
-------------------------------------------------------------------------      ES  36 28.35  0.94

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
          "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
          #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
          *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COMPOSITE OF STUDENTS AND PRACTITIONERS IN RESPIRATORY THERAPY
   BASE TOTAL N =    480. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

      TYPE TABLE ORDER             E   3.10   IJ   0.00   SJ   2.50   IN   5.40
                                   I   3.10   IP   5.43   SP   1.89   EN   2.05
 0.72    0.72    0.58    0.56                 EP   0.21   NP   1.60   IS   0.00
                                   S   0.19   EJ   5.81   NJ   0.91   ES   0.28
 3.51    1.05    3.69    4.87      N   0.19
                                              ST   1.81   TJ   0.00
 3.51    0.63    1.84    0.16      T   5.68   SF   2.63   TP   9.66
                                   F   5.68   NF   0.90   FP   0.02
 0.94    2.51    0.34    0.79                 NT   2.44   FJ   6.04
                                   J   4.96
                                   P   4.96
```

```
SOURCE OF DATA:                       GROUP                     MBTI TYPE TABLE
                                    TABULATED:             CENTER FOR APPLICATIONS
MARY H. MCCAULLEY, PH.D.                                    OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS            STUDENTS AND
HEW CONTRACT 231-76-0051         PRACTITIONERS IN          LEGEND: % = PERCENT OF
 AMSA FOUNDATION - CAPT        RESPIRATORY THERAPY         TOTAL CHOOSING THIS GROUP
                                      MALES                WHO FALL INTO THIS TYPE.
TABLE CREATED 7/31/77                                      I = SELFSELECTION INDEX;
                                                           RATIO OF PERCENT OF TYPE
                                   N=  150                 IN GROUP TO % IN SAMPLE.

TABLE P-4

      SENSING TYPES                INTUITIVE TYPES
WITH            WITH            WITH            WITH                            N      %        I
THINKING        FEELING         FEELING         THINKING
-------------------------------------------------------------------    E       70  46.67    0.89
| I S T J      | I S F J      | I N F J      | I N T J      |  J       I       80  53.33    1.12
|              |              |              |              |  U
|              |              |              |              |  D       S       93  62.00    1.07
| N=  25       | N=   16      | N=    5      | N=    7      |  G       N       57  38.00    0.91
|              |              |              |              |  I
| %=16.67      | %=10.67      | %= 3.33      | %= 4.67      |  N I     T       89  59.33    1.31*
|              |              |              |              |  G N     F       61  40.67    0.75*
| I= 2.05*     | I= 1.67"     | I= 1.05      | I= 1.46      |    T
|              |              |              |              |    R     J       89  59.33    1.33*
-------------------------------------------------------------------    O     P       61  40.67    0.74*
| I S T P      | I S F P      | I N F P      | I N T P      |    V
|              |              |              |              |    E     IJ      53  35.33    1.69*
|              |              |              |              |    R     IP      27  18.00    0.67"
| N=   5       | N=    9      | N=    4      | N=    9      |    T
|              |              |              |              |    S     EP      34  22.67    0.79
| %= 3.33      | %= 6.00      | %= 2.67      | %= 6.00      |  P       EJ      36  24.00    1.01
|              |              |              |              |  E
| I= 0.62      | I= 0.78      | I= 0.31#     | I= 1.17      |  R       ST      51  34.00    1.21
|              |              |              |              |  C       SF      42  28.00    0.93
-------------------------------------------------------------------  E
| E S T P      | E S F P      | E N F P      | E N T P      |  P       NF      19  12.67    0.51*
|              |              |              |              |  T       NT      38  25.33    1.47"
|              |              |              |              |  I
| N=   4       | N=    6      | N=    6      | N=   18      |  V       SJ      69  46.00    1.46*
|              |              |              |              |  E       SP      24  16.00    0.60#
| %= 2.67      | %= 4.00      | %= 4.00      | %=12.00      |  S E
|              |              |              |              |    X     NP      37  24.67    0.86
| I= 0.48      | I= 0.50      | I= 0.42"     | I= 2.19*     |    T     NJ      20  13.33    1.02
|              |              |              |              |    R
-------------------------------------------------------------------    A     TJ      53  35.33    1.48#
| E S T J      | E S F J      | E N F J      | E N T J      |  J V     TP      36  24.00    1.12
|              |              |              |              |  U E
|              |              |              |              |  D R     FP      25  16.67    0.49*
| N=  17       | N=   11      | N=    4      | N=    4      |  G T     FJ      36  24.00    1.16
|              |              |              |              |  I S
| %=11.33      | %= 7.33      | %= 2.67      | %= 2.67      |  N       IN      25  16.67    0.83
|              |              |              |              |  G       EN      32  21.33    0.98
| I= 1.24      | I= 0.92      | I= 0.82      | I= 0.77      |
|              |              |              |              |          IS      55  36.67    1.33"
-------------------------------------------------------------------          ES      38  25.33    0.83

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   MALE HIGH SCHOOL JUNIORS AND SENIORS ON THE CAPT DATA BANK
   BASE TOTAL N =  3907. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER             E    1.83    IJ   17.84    SJ   13.71    IN   1.08
                                     I    1.83    IP    5.74    SP    8.31    EN   0.01
13.57     4.29     0.99     0.99                  EP    2.43    NP    1.19    IS   5.91
                                     S    0.88    EJ    0.00    NJ    0.01    ES   1.87
0.35      0.58     0.01     0.23     N    0.88
                                                  ST    2.41    TJ   10.19
0.14      3.14     5.25    11.40     T   11.24    SF    0.27    TP    0.53
                                     F   11.24    NF   11.22    FP   19.15
0.83      0.07     0.81     0.66                  NT    6.52    FJ    0.92
                                     J   12.51
                                     P   12.51
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

STUDENTS AND
PRACTITIONERS IN
RESPIRATORY THERAPY
FEMALES

N= 124

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE P-5

SENSING TYPES WITH THINKING	 WITH FEELING	INTUITIVE TYPES WITH FEELING	 WITH THINKING		
I S T J N= 5 %= 4.03 I= 1.19	I S F J N= 8 %= 6.45 I= 0.75	I N F J N= 3 %= 2.42 I= 0.87	I N T J N= 4 %= 3.23 I= 3.15"	JUDGING	INTROVERTS
I S T P N= 2 %= 1.61 I= 0.88	I S F P N= 13 %=10.48 I= 1.35	I N F P N= 8 %= 6.45 I= 0.62	I N T P N= 8 %= 6.45 I= 2.57#	PERCEPTIVES	
E S T P N= 5 %= 4.03 I= 1.41	E S F P N= 21 %=16.94 I= 1.41	E N F P N= 14 %=11.29 I= 0.65	E N T P N= 4 %= 3.23 I= 0.99		EXTRAVERTS
E S T J N= 8 %= 6.45 I= 1.55	E S F J N= 12 %= 9.68 I= 0.66	E N F J N= 5 %= 4.03 I= 0.74	E N T J N= 4 %= 3.23 I= 1.79	JUDGING	

	N	%	I
E	73	58.87	0.95
I	51	41.13	1.07
S	74	59.68	1.08
N	50	40.32	0.90
T	40	32.26	1.55#
F	84	67.74	0.86#
J	49	39.52	0.94
P	75	60.48	1.04
IJ	20	16.13	1.02
IP	31	25.00	1.11
EP	44	35.48	1.00
EJ	29	23.39	0.90
ST	20	16.13	1.32
SF	54	43.55	1.01
NF	30	24.19	0.67#
NT	20	16.13	1.88#
SJ	33	26.61	0.86
SP	41	33.06	1.35"
NP	34	27.42	0.82
NJ	16	12.90	1.16
TJ	21	16.94	1.63"
TP	19	15.32	1.47
FP	56	45.16	0.95
FJ	28	22.58	0.72"
IN	23	18.55	1.11
EN	27	21.77	0.78
IS	28	22.58	1.04
ES	46	37.10	1.10

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
FEMALE HIGH SCHOOL JUNIORS AND SENIORS ON THE CAPT DATA BANK
BASE TOTAL N = 2831. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.79	0.72	0.99	0.05
0.99	1.20	1.97	7.10
0.58	2.64	3.20	0.99
1.52	2.36	0.55	0.29

E	0.40	IJ	0.01	SJ	0.98	IN	0.30
I	0.40	IP	0.44	SP	4.65	EN	2.31
S	0.91	EP	0.00	NP	2.04	IS	0.06
N	0.91	EJ	0.44	NJ	0.37	ES	0.61
T	9.23	ST	1.64	TJ	5.35		
F	9.23	SF	0.01	TP	2.95		
J	0.28	NF	7.35	FP	0.30		
P	0.28	NT	8.34	FJ	4.42		

Appendix Q

Social Work

Table Number	Name of Group Tabulated	Number in Group	Compared to Base
Q 1	All Students and Practitioners	309	32,271
Q 2	Social Work Students	140	6,738
Q 3	Social Workers	169	309
Q 4	Students and Practitioners: Males	71	3,907
Q 5	Students and Practitioners: Females	231	2,831

Note: Sex is known for only 302 of the 309 in the composite sample.

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

COMPOSITE OF
STUDENTS AND
PRACTITIONERS IN
SOCIAL WORK

N= 309

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE Q-1

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 10 %= 3.24 I= 0.39#	I S F J N= 23 %= 7.44 I= 0.71	I N F J N= 22 %= 7.12 I= 1.33	I N T J N= 11 %= 3.56 I= 0.88	JUDGING / INTROVERTS
I S T P N= 7 %= 2.27 I= 0.37	I S F P N= 9 %= 2.91 I= 0.64	I N F P N= 39 %=12.62 I= 1.44"	I N T P N= 10 %= 3.24 I= 0.88	PERCEPTIVES / INTROVERTS
E S T P N= 5 %= 1.62 I= 0.84	E S F P N= 21 %= 6.80 I= 1.47	E N F P N= 72 %=23.30 I= 2.06*	E N T P N= 16 %= 5.18 I= 1.43	PERCEPTIVES / EXTRAVERTS
E S T J N= 21 %= 6.80 I= 0.88	E S F J N= 13 %= 4.21 I= 0.37*	E N F J N= 23 %= 7.44 I= 1.03	E N T J N= 7 %= 2.27 I= 0.49"	JUDGING / EXTRAVERTS

	N	%	I
E	176	57.61	1.10
I	131	42.39	0.89
S	109	35.28	0.69*
N	200	64.72	1.33*
T	87	28.16	0.78#
F	222	71.84	1.13#
J	130	42.07	0.71*
P	179	57.93	1.42*
IJ	66	21.36	0.76#
IP	65	21.04	1.09
EP	114	36.89	1.72*
EJ	64	20.71	0.67*
ST	43	13.92	0.68#
SF	66	21.36	0.69*
NF	156	50.49	1.55*
NT	44	14.24	0.89
SJ	67	21.68	0.57*
SP	42	13.59	1.01
NP	137	44.34	1.62*
NJ	63	20.39	0.96
TJ	49	15.86	0.64*
TP	38	12.30	1.06
FP	141	45.63	1.56*
FJ	81	26.21	0.76#
IN	82	26.54	1.21"
EN	118	38.19	1.43*
IS	49	15.86	0.62*
ES	60	19.42	0.76"

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS & PRACTITIONERS IN ALL HEALTH AND HEALTH RELATED FIELDS.
BASE TOTAL N = 32271. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

10.68	3.14	1.93	0.20
0.01	1.95	5.88	0.18
0.75	3.38	44.61	2.16
0.39	15.71	0.02	3.83

E	3.43	IJ	7.38	SJ	35.01	IN	4.02
I	3.43	IP	0.57	SP	0.01	EN	20.72
		EP	43.99	NP	45.11	IS	16.06
S	32.37	EJ	15.15	NJ	0.14	ES	6.25
N	32.37						
		ST	7.99	TJ	13.24		
T	9.00	SF	13.59	TP	0.16		
F	9.00	NF	45.05	FP	40.51		
		NT	0.69	FJ	9.34		
J	37.82						
P	37.82						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

COMPOSITE OF
STUDENTS IN

SOCIAL WORK

N= 140

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE Q-2

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 3 %= 2.14 I= 0.35	I S F J N= 14 %=10.00 I= 1.36	I N F J N= 5 %= 3.57 I= 1.19	I N T J N= 3 %= 2.14 I= 0.94	JUDGING	INTROVERTS
I S T P N= 6 %= 4.29 I= 1.10	I S F P N= 7 %= 5.00 I= 0.65	I N F P N= 21 %=15.00 I= 1.60"	I N T P N= 7 %= 5.00 I= 1.24	PERCEPTIVES	
E S T P N= 3 %= 2.14 I= 0.49	E S F P N= 10 %= 7.14 I= 0.74	E N F P N= 30 %=21.43 I= 1.66#	E N T P N= 5 %= 3.57 I= 0.79		EXTRAVERTS
E S T J N= 7 %= 5.00 I= 0.71	E S F J N= 7 %= 5.00 I= 0.47"	E N F J N= 7 %= 5.00 I= 1.19	E N T J N= 5 %= 3.57 I= 1.29	JUDGING	

	N	%	I
E	74	52.86	0.94
I	66	47.14	1.08
S	57	40.71	0.71*
N	83	59.29	1.38*
T	39	27.86	0.79
F	101	72.14	1.11
J	51	36.43	0.84
P	89	63.57	1.13
IJ	25	17.86	0.95
IP	41	29.29	1.17
EP	48	34.29	1.09
EJ	26	18.57	0.75
ST	19	13.57	0.63"
SF	38	27.14	0.77"
NF	63	45.00	1.53*
NT	20	14.29	1.05
SJ	31	22.14	0.71"
SP	26	18.57	0.72
NP	63	45.00	1.46*
NJ	20	14.29	1.17
TJ	18	12.86	0.70
TP	21	15.00	0.89
FP	68	48.57	1.23"
FJ	33	23.57	0.93
IN	36	25.71	1.38"
EN	47	33.57	1.38"
IS	30	21.43	0.85
ES	27	19.29	0.60#

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
BASE TOTAL N = 6738. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.07	1.43	0.77	0.95
0.06	1.43	5.11	0.34
0.21	1.01	8.82	0.68
0.88	4.77	0.23	0.56

E	0.64	IJ	0.08	SJ	5.33	IN	4.46
I	0.64	IP	1.36	SP	3.65	EN	6.27
S	14.74	EP	0.49	NP	12.92	IS	0.98
N	14.74	EJ	2.81	NJ	0.53	ES	10.06
T	3.16	ST	5.13	TJ	2.68		
F	3.16	SF	4.16	TP	0.34		
J	2.80	NF	15.91	FP	4.58		
P	2.80	NT	0.05	FJ	0.21		

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

COMPOSITE OF
PRACTITIONERS IN

SOCIAL WORK

N= 169

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE Q-3

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 7 %= 4.14 I= 1.28	I S F J N= 9 %= 5.33 I= 0.72	I N F J N= 17 %=10.06 I= 1.41"	I N T J N= 8 %= 4.73 I= 1.33	JUDGING / INTROVERTS
I S T P N= 1 %= 0.59 I= 0.26"	I S F P N= 2 %= 1.18 I= 0.41	I N F P N= 18 %=10.65 I= 0.84	I N T P N= 3 %= 1.78 I= 0.55	PERCEPTIVES / INTROVERTS
E S T P N= 2 %= 1.18 I= 0.73	E S F P N= 11 %= 6.51 I= 0.96	E N F P N= 42 %=24.85 I= 1.07	E N T P N= 11 %= 6.51 I= 1.26	PERCEPTIVES / EXTRAVERTS
E S T J N= 14 %= 8.28 I= 1.22	E S F J N= 6 %= 3.55 I= 0.84	E N F J N= 16 %= 9.47 I= 1.27	E N T J N= 2 %= 1.18 I= 0.52	JUDGING / EXTRAVERTS

	N	%	I
E	104	61.54	1.07
I	65	38.46	0.91
S	52	30.77	0.87
N	117	69.23	1.07
T	48	28.40	1.01
F	121	71.60	1.00
J	79	46.75	1.11
P	90	53.25	0.92
IJ	41	24.26	1.14
IP	24	14.20	0.68#
EP	66	39.05	1.06
EJ	38	22.49	1.09
ST	24	14.20	1.02
SF	28	16.57	0.78"
NF	93	55.03	1.09
NT	24	14.20	1.00
SJ	36	21.30	0.98
SP	16	9.47	0.70"
NP	74	43.79	0.99
NJ	43	25.44	1.25"
TJ	31	18.34	1.16
TP	17	10.06	0.82
FP	73	43.20	0.95
FJ	48	28.40	1.08
IN	46	27.22	1.03
EN	71	42.01	1.10
IS	19	11.24	0.71"
ES	33	19.53	1.01

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS AND PRACTITIONERS IN SOCIAL WORK
BASE TOTAL N = 309. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.36	2.43	0.04	0.36
0.05	0.08	1.31	0.19
0.66	0.05	0.50	0.31
1.30	0.40	2.22	0.25

E	2.36	IJ	1.87	SJ	0.03	IN	0.09
I	2.36	IP	10.49	SP	5.40	EN	2.31
		EP	0.75	NP	0.05	IS	5.95
S	3.32	FJ	0.71	NJ	5.87	ES	0.00
N	3.32						
		ST	0.03	TJ	1.73		
T	0.01	SF	5.10	TP	1.73		
F	0.01	NF	3.08	FP	0.89		
		NT	0.00	FJ	0.92		
J	3.34						
P	3.34						

```
SOURCE OF DATA:                        GROUP                 MBTI TYPE TABLE
                                     TABULATED:         CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                OF PSYCHOLOGICAL TYPE
   AND OTHER CONTRIBUTORS           STUDENTS AND
 HEW CONTRACT 231-76-0051         PRACTITIONERS IN      LEGEND: % = PERCENT OF
   AMSA FOUNDATION - CAPT           SOCIAL WORK         TOTAL CHOOSING THIS GROUP
                                       MALES            WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                  I = SELFSELECTION INDEX;
                                                        RATIO OF PERCENT OF TYPE
                                      N=    71          IN GROUP TO % IN SAMPLE.

TABLE Q-4

       SENSING TYPES                 INTUITIVE TYPES
WITH          WITH          WITH          WITH                               N     %       I
THINKING      FEELING       FEELING       THINKING
--------------------------------------------------------            E       38  53.52    1.02
| I S T J    | I S F J    | I N F J    | I N T J    | J             I       33  46.48    0.97
|            |            |            |            | U
|            |            |            |            | D             S       19  26.76    0.46*
| N=   0     | N=   4     | N=   6     | N=   7     | G             N       52  73.24    1.75*
|            |            |            |            | I
| %= 0.0     | %= 5.63    | %= 8.45    | %= 9.86    | N  I          T       26  36.62    0.81
|            |            |            |            | G  N          F       45  63.38    1.16
| I= 0.0 "   | I= 0.88    | I= 2.66"   | I= 3.08#   |    T
|            |            |            |            |    R          J       29  40.85    0.91
--------------------------------------------------------   O          P       42  59.15    1.07
| I S T P    | I S F P    | I N F P    | I N T P    |    V
|            |            |            |            |    E          IJ      17  23.94    1.15
|            |            |            |            |    R          IP      16  22.54    0.84
| N=   1     | N=   1     | N=   7     | N=   7     |    T
|            |            |            |            |    S          EP      26  36.62    1.28
| %= 1.41    | %= 1.41    | %= 9.86    | %= 9.86    | P             EJ      12  16.90    0.71
|            |            |            |            | E
| I= 0.26    | I= 0.18    | I= 1.14    | I= 1.93    | R             ST       7   9.86    0.35*
|            |            |            |            | C             SF      12  16.90    0.56"
-------------------------------------------------------- E
| E S T P    | E S F P    | E N F P    | E N T P    | P             NF      33  46.48    1.89*
|            |            |            |            | T             NT      19  26.76    1.55"
|            |            |            |            | I
| N=   1     | N=   6     | N=  16     | N=   3     | V             SJ      10  14.08    0.45#
|            |            |            |            | E             SP       9  12.68    0.48#
| %= 1.41    | %= 8.45    | %=22.54    | %= 4.23    | S  E
|            |            |            |            |    X          NP      33  46.48    1.62#
| I= 0.25    | I= 1.06    | I= 2.36*   | I= 0.77    |    T          NJ      19  26.76    2.05*
|            |            |            |            |    R
--------------------------------------------------------   A          TJ      14  19.72    0.82
| E S T J    | E S F J    | E N F J    | E N T J    | J  V          TP      12  16.90    0.79
|            |            |            |            | U  E
|            |            |            |            | D  R          FP      30  42.25    1.25
| N=   5     | N=   1     | N=   4     | N=   2     | G  T          FJ      15  21.13    1.02
|            |            |            |            | I  S
| %= 7.04    | %= 1.41    | %= 5.63    | %= 2.82    | N             IN      27  38.03    1.89*
|            |            |            |            | G             EN      25  35.21    1.62#
| I= 0.77    | I= 0.18"   | I= 1.73    | I= 0.82    |
|            |            |            |            |               IS       6   8.45    0.31*
--------------------------------------------------------            ES      13  18.31    0.60"

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E.. CHI SQ. >  3.8;
         #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E.. CHI SQ. >  6.6;
         *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E.. CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   MALE HIGH SCHOOL JUNIORS AND SENIORS ON THE CAPT DATA BANK
   BASE TOTAL N =  3907. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

      TYPE TABLE ORDER             E   0.04    IJ   0.39    SJ    9.96    IN  13.76
                                   I   0.04    IP   0.65    SP    6.92    EN   7.39
 0.01     0.81     6.14    9.64                EP   2.24    NP   10.60    IS  12.89
                                   S  28.14    EJ   1.83    NJ   11.30    ES   4.95
 0.18     0.06     0.13    3.18    N  28.14
                                               ST  11.65    TJ    0.68
 0.18     0.02    13.33    0.79    T   2.19    SF   5.70    TP    0.88
                                   F   2.19    NF  17.81    FP    2.22
 0.67     0.24     0.29    0.99                NT   4.38    FJ    0.01
                                   J   0.42
                                   P   0.42
```

```
SOURCE OF DATA:                     GROUP               MBTI TYPE TABLE
                                  TABULATED:         CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY. PH.D.                              OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS          STUDENTS AND
 HEW CONTRACT 231-76-0051       PRACTITIONERS IN     LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT          SOCIAL WORK        TOTAL CHOOSING THIS GROUP
                                    FEMALES          WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                               I = SELFSELECTION INDEX;
                                                     RATIO OF PERCENT OF TYPE
                                   N=  231           IN GROUP TO % IN SAMPLE.

 TABLE Q-5

       SENSING TYPES             INTUITIVE TYPES
 WITH         WITH         WITH         WITH                             N      %       I
 THINKING     FEELING      FEELING      THINKING
 ----------------------------------------------------           E      133  57.58   0.93
| I S T J   | I S F J   | I N F J   | I N T J   |  J          I       98  42.42   1.11
|           |           |           |           |  U
|           |           |           |           |  D          S       90  38.96   0.70*
| N=  10    | N=  19    | N=  16    | N=   4    |  G          N      141  61.04   1.37*
|           |           |           |           |  I
| %= 4.33   | %= 8.23   | %= 6.93   | %= 1.73   |  N  I       T       59  25.54   1.23
|           |           |           |           |  G  N       F      172  74.46   0.94
| I= 1.28   | I= 0.95   | I= 2.48*  | I= 1.69   |     T
|           |           |           |           |     R       J      100  43.29   1.03
 ----------------------------------------------------  O       P      131  56.71   0.98
| I S T P   | I S F P   | I N F P   | I N T P   |     V
|           |           |           |           |     E       IJ      49  21.21   1.34"
| N=   6    | N=   8    | N=  32    | N=   3    |     R       IP      49  21.21   0.94
|           |           |           |           |     T
| %= 2.60   | %= 3.46   | %=13.85   | %= 1.30   |  P  S       EP      82  35.50   1.00
|           |           |           |           |  E          EJ      51  22.08   0.85
| I= 1.41   | I= 0.45"  | I= 1.34   | I= 0.52   |  R
|           |           |           |           |  C          ST      36  15.58   1.27
 ----------------------------------------------------  E          SF      54  23.38   0.54*
| E S T P   | E S F P   | E N F P   | E N T P   |  P
|           |           |           |           |  T          NF     118  51.08   1.42*
| N=   4    | N=  15    | N=  52    | N=  11    |  I          NT      23   9.96   1.16
|           |           |           |           |  V
| %= 1.73   | %= 6.49   | %=22.51   | %= 4.76   |  E          SJ      57  24.68   0.80
|           |           |           |           |  S  E       SP      33  14.29   0.58*
| I= 0.61   | I= 0.54"  | I= 1.29   | I= 1.47   |     X
|           |           |           |           |     T       NP      98  42.42   1.26#
 ----------------------------------------------------  R       NJ      43  18.61   1.68*
| E S T J   | E S F J   | E N F J   | E N T J   |  J  A
|           |           |           |           |  U  V       TJ      35  15.15   1.46"
| N=  16    | N=  12    | N=  18    | N=   5    |  D  E       TP      24  10.39   0.99
|           |           |           |           |  G  R
| %= 6.93   | %= 5.19   | %= 7.79   | %= 2.16   |  I  T       FP     107  46.32   0.97
|           |           |           |           |  N  S       FJ      65  28.14   0.89
| I= 1.66"  | I= 0.36*  | I= 1.42   | I= 1.20   |  G
|           |           |           |           |             IN      55  23.81   1.43#
 ----------------------------------------------------             EN      86  37.23   1.33#

                                                                IS      43  18.61   0.86
                                                                ES      47  20.35   0.60*

     NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. >  3.8;
         #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. >  6.6;
         *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
 _  (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

     BASE POPULATION USED IN CALCULATING SELECTION RATIO:
     FEMALE HIGH SCHOOL JUNIORS AND SENIORS ON THE CAPT DATA BANK
     BASE TOTAL N =  2831. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

         TYPE TABLE ORDER              E    1.54    IJ   4.56    SJ   3.79    IN   7.63
                                       I    1.54    IP   0.19    SP  12.34    EN   8.87
 0.56     0.04     12.15     0.31                   EP   0.00    NP   7.40    IS   1.15
                                       S   23.00    EJ   1.78    NJ  11.74    ES  17.30
 0.66     5.75      2.76     0.28      N   23.00
                                                    ST   2.16    TJ   5.06
 0.40     6.41      3.68     1.50      T    2.83    SF  34.06    TP   0.00
                                       F    2.83    NF  20.51    FP   0.15
 3.88    15.85      2.15     0.79                   NT   0.51    FJ   1.13
                                       J    0.17
                                       P    0.17
```

Appendix R

Speech Pathology

Table Number	Name of Group Tabulated	Number in Group	Compared to Base
R 1	All Students and Practitioners	337	32,271
R 2	Speech Pathology Students	215	6,738
R 3	Undergraduate Speech Pathology Students	112	160
R 4	Graduate Speech Pathology Students	48	160
R 5	Speech Pathologists	122	337
R 6	Speech Pathologists: Baccalaureate Degree	40	122
R 7	Speech Pathologists: Graduate Degree	31	122

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

COMPOSITE OF
STUDENTS AND
PRACTITIONERS IN
SPEECH PATHOLOGY

N= 337

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX:
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

TABLE R-1

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
ISTJ N= 12 %= 3.56 I= 0.43#	ISFJ N= 22 %= 6.53 I= 0.62"	INFJ N= 15 %= 4.45 I= 0.83	INTJ N= 9 %= 2.67 I= 0.66	JUDGING	INTROVERTS
ISTP N= 9 %= 2.67 I= 1.14	ISFP N= 21 %= 6.23 I= 1.37	INFP N= 33 %= 9.79 I= 1.12	INTP N= 11 %= 3.26 I= 0.88	PERCEPTIVES	
ESTP N= 6 %= 1.78 I= 0.93	ESFP N= 19 %= 5.64 I= 1.22	ENFP N= 59 %=17.51 I= 1.55*	ENTP N= 16 %= 4.75 I= 1.31		EXTRAVERTS
ESTJ N= 17 %= 5.04 I= 0.65	ESFJ N= 40 %=11.87 I= 1.05	ENFJ N= 33 %= 9.79 I= 1.35	ENTJ N= 15 %= 4.45 I= 0.97	JUDGING	

	N	%	I
E	205	60.83	1.16#
I	132	39.17	0.82#
S	146	43.32	0.84#
N	191	56.68	1.17#
T	95	28.19	0.78#
F	242	71.81	1.13#
J	163	48.37	0.82*
P	174	51.63	1.26*
IJ	58	17.21	0.61*
IP	74	21.96	1.14
EP	100	29.67	1.38*
EJ	105	31.16	1.01
ST	44	13.06	0.64*
SF	102	30.27	0.98
NF	140	41.54	1.27*
NT	51	15.13	0.95
SJ	91	27.00	0.71*
SP	55	16.32	1.21
NP	119	35.31	1.29#
NJ	72	21.36	1.01
TJ	53	15.73	0.64*
TP	42	12.46	1.08
FP	132	39.17	1.34*
FJ	110	32.64	0.95
IN	68	20.18	0.92
EN	123	36.50	1.36*
IS	64	18.99	0.74#
ES	82	24.33	0.95

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS & PRACTITIONERS IN ALL HEALTH AND HEALTH RELATED FIELDS.
BASE TOTAL N = 32271. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

10.23	5.77	0.54	1.69
0.16	2.18	0.47	0.18
0.03	0.81	12.99	1.24
3.47	0.10	3.27	0.01

E	9.78	IJ	20.60	SJ	17.30	IN	0.56
I	9.78	IP	1.49	SP	2.44	EN	16.42
		EP	13.58	NP	10.77	IS	8.21
S	8.84	EJ	0.01	NJ	0.00	ES	0.28
N	8.84						
		ST	11.21	TJ	14.88		
T	9.74	SF	0.09	TP	0.26		
F	9.74	NF	12.21	FP	16.23		
		NT	0.17	FJ	0.49		
J	16.49						
P	16.49						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

COMPOSITE OF
STUDENTS IN

SPEECH PATHOLOGY

N= 215

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX;
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

TABLE R-2

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 7 %= 3.26 I= 0.53	I S F J N= 15 %= 6.98 I= 0.95	I N F J N= 7 %= 3.26 I= 1.08	I N T J N= 4 %= 1.86 I= 0.81	JUDGING INTROVERTS
I S T P N= 6 %= 2.79 I= 0.72	I S F P N= 14 %= 6.51 I= 0.84	I N F P N= 21 %= 9.77 I= 1.04	I N T P N= 7 %= 3.26 I= 0.81	PERCEPTIVES INTROVERTS
E S T P N= 5 %= 2.33 I= 0.53	E S F P N= 15 %= 6.98 I= 0.72	E N F P N= 41 %=19.07 I= 1.48#	E N T P N= 6 %= 2.79 I= 0.61	PERCEPTIVES EXTRAVERTS
E S T J N= 9 %= 4.19 I= 0.59	E S F J N= 28 %=13.02 I= 1.21	E N F J N= 22 %=10.23 I= 2.44*	E N T J N= 8 %= 3.72 I= 1.35	JUDGING EXTRAVERTS

	N	%	I
E	134	62.33	1.11
I	81	37.67	0.86
S	99	46.05	0.81#
N	116	53.95	1.25#
T	52	24.19	0.69*
F	163	75.81	1.17*
J	100	46.51	1.07
P	115	53.49	0.95
IJ	33	15.35	0.82
IP	48	22.33	0.89
EP	67	31.16	0.99
EJ	67	31.16	1.26"
ST	27	12.56	0.58#
SF	72	33.49	0.94
NF	91	42.33	1.44*
NT	25	11.63	0.85
SJ	59	27.44	0.88
SP	40	18.60	0.72"
NP	75	34.88	1.13
NJ	41	19.07	1.56#
TJ	28	13.02	0.71"
TP	24	11.16	0.66"
FP	91	42.33	1.07
FJ	72	33.49	1.32#
IN	39	18.14	0.97
EN	77	35.81	1.47*
IS	42	19.53	0.78
ES	57	26.51	0.83

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
BASE TOTAL N = 6738. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR _FISHER'S EXACT PROBABILITY_ * * * *

TYPE TABLE ORDER

3.06	0.04	0.04	_0.76_
0.68	0.43	0.04	0.32
_0.16_	1.75	7.02	1.49
2.64	1.12	18.22	0.71

E	3.13	IJ	1.61	SJ	1.42	IN	0.04
I	3.13	IP	0.78	SP	5.51	EN	14.66
		EP	0.01	NP	1.63	IS	3.43
S	10.10	EJ	4.59	NJ	8.90	ES	2.77
N	10.10						
		ST	9.95	TJ	3.83		
T	10.94	SF	0.36	TP	4.86		
F	10.94	NF	16.55	FP	0.63		
		NT	0.70	FJ	7.39		
J	0.76						
P	0.76						

SOURCE OF DATA:

COMPOSITE OF STUDIES BY
BORKOWSKI (1974) AND BY
NATTER & RIFKIND, 1975
TABLE PREPARED FOR
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

GROUP
TABULATED:

UNDERGRADUATE
STUDENTS

SPEECH PATHOLOGY

N= 112

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE R-3

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 4 %= 3.57 I= 1.43	I S F J N= 9 %= 8.04 I= 1.17	I N F J N= 4 %= 3.57 I= 0.82	I N T J N= 0 %= 0.0 I= 0.0	JUDGING INTROVERTS
I S T P N= 2 %= 1.79 I= 1.43	I S F P N= 8 %= 7.14 I= 1.43	I N F P N= 9 %= 8.04 I= 0.80	I N T P N= 2 %= 1.79 I= 0.71	PERCEPTIVES INTROVERTS
E S T P N= 2 %= 1.79 I= 0.95	E S F P N= 7 %= 6.25 I= 1.25	E N F P N= 20 %=17.86 I= 0.99	E N T P N= 5 %= 4.46 I= 0.89	PERCEPTIVES EXTRAVERTS
E S T J N= 6 %= 5.36 I= 1.22	E S F J N= 17 %=15.18 I= 0.87	E N F J N= 13 %=11.61 I= 1.03	E N T J N= 4 %= 3.57 I= 1.14	JUDGING EXTRAVERTS

	N	%	I
E	74	66.07	1.00
I	38	33.93	1.01
S	55	49.11	1.11
N	57	50.89	0.91
T	25	22.32	1.02
F	87	77.68	0.99
J	57	50.89	0.99
P	55	49.11	1.01
IJ	17	15.18	1.01
IP	21	18.75	1.00
EP	34	30.36	1.01
EJ	40	35.71	0.99
ST	14	12.50	1.25
SF	41	36.61	1.06
NF	46	41.07	0.94
NT	11	9.82	0.83
SJ	36	32.14	1.03
SP	19	16.96	1.29"
NP	36	32.14	0.90
NJ	21	18.75	0.94
TJ	14	12.50	1.11
TP	11	9.82	0.92
FP	44	39.29	1.03
FJ	43	38.39	0.96
IN	15	13.39	0.74"
EN	42	37.50	1.00
IS	23	20.54	1.31"
ES	32	28.57	0.99

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF UNDERGRADUATE & GRADUATE STUDENTS IN BORKOWSKI & NATTER STUDIES
BASE TOTAL N = 160. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.32	0.51	0.68	0.09
0.58	0.11	1.60	0.58
1.00	0.44	0.02	0.70
0.45	1.39	1.00	1.00

E	0.01	IJ	0.01	SJ	0.14	IN	5.63
I	0.01	IP	0.0	SP	0.04	EN	0.0
		EP	0.02	NP	1.97	IS	0.02
S	3.39	EJ	0.05	NJ	0.36	ES	0.01
N	3.39						
		ST	0.15	TJ	0.59		
T	0.04	SF	0.82	TP	0.25		
F	0.04	NF	1.09	FP	0.21		
		NT	1.50	FJ	0.40		
J	0.02						
P	0.02						

SOURCE OF DATA:

COMPOSITE OF STUDIES BY
BORKOWSKI (1974) AND BY
NATTER & RIFKIND, 1975
TABLE PREPARED FOR
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

GROUP
TABULATED:

GRADUATE
STUDENTS

SPEECH PATHOLOGY

N= 48

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE R-4

SENSING TYPES		INTUITIVE TYPES		
WITH THINKING	WITH FEELING	WITH FEELING	WITH THINKING	
I S T J N= 0 %= 0.0 I= 0.0	I S F J N= 2 %= 4.17 I= 0.61	I N F J N= 3 %= 6.25 I= 1.43	I N T J N= 2 %= 4.17 I= 3.33	JUDGING INTROVERTS
I S T P N= 0 %= 0.0 I= 0.0	I S F P N= 0 %= 0.0 I= 0.0	I N F P N= 7 %=14.58 I= 1.46	I N T P N= 2 %= 4.17 I= 1.67	PERCEPTIVES INTROVERTS
E S T P N= 1 %= 2.08 I= 1.11	E S F P N= 1 %= 2.08 I= 0.42	E N F P N= 9 %=18.75 I= 1.03	E N T P N= 3 %= 6.25 I= 1.25	PERCEPTIVES EXTRAVERTS
E S T J N= 1 %= 2.08 I= 0.48	E S F J N= 11 %=22.92 I= 1.31	E N F J N= 5 %=10.42 I= 0.93	E N T J N= 1 %= 2.08 I= 0.67	JUDGING EXTRAVERTS

	N	%	I
E	32	66.67	1.01
I	16	33.33	0.99
S	16	33.33	0.75
N	32	66.67	1.20
T	10	20.83	0.95
F	38	79.17	1.01
J	25	52.08	1.02
P	23	47.92	0.98
IJ	7	14.58	0.97
IP	9	18.75	1.00
EP	14	29.17	0.97
EJ	18	37.50	1.03
ST	2	4.17	0.42
SF	14	29.17	0.85
NF	24	50.00	1.14
NT	8	16.67	1.40
SJ	14	29.17	0.93
SP	2	4.17	0.32"_
NP	21	43.75	1.23
NJ	11	22.92	1.15
TJ	4	8.33	0.74
TP	6	12.50	1.18
FP	17	35.42	0.93
FJ	21	43.75	1.09
IN	14	29.17	1.61"
EN	18	37.50	1.00
IS	2	4.17	0.27"_
ES	14	29.17	1.01

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
# IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF UNDERGRADUATE & GRADUATE STUDENTS IN BORKOWSKI & NATTER STUDIES
BASE TOTAL N = 160. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.32	0.51	0.68	0.09
0.58	0.11	1.60	0.58
1.00	0.44	C.02	0.70
0.45	[illegible]	1.00	1.00

E	0.01	IJ	0.01	SJ	0.14	IN	5.63
I	0.01	IP	0.0	SP	0.04	EN	0.0
		EP	0.02	NP	1.97	IS	0.02
S	3.39	EJ	0.05	NJ	0.36	ES	0.01
N	3.39						
		ST	0.15	TJ	0.59		
T	0.04	SF	0.82	TP	0.25		
F	0.04	NF	1.09	FP	0.21		
		NT	1.50	FJ	0.40		
J	0.02						
P	0.02						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

COMPOSITE OF
PRACTITIONERS IN

SPEECH PATHOLOGY

N= 122

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF
TOTAL CHOOSING THIS GROUP
WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX;
RATIO OF PERCENT OF TYPE
IN GROUP TO % IN SAMPLE.

TABLE R-5

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 5 %= 4.10 I= 1.15	I S F J N= 7 %= 5.74 I= 0.88	I N F J N= 8 %= 6.56 I= 1.47	I N T J N= 5 %= 4.10 I= 1.53	JUDGING	INTROVERTS
I S T P N= 3 %= 2.46 I= 0.92	I S F P N= 7 %= 5.74 I= 0.92	I N F P N= 12 %= 9.84 I= 1.00	I N T P N= 4 %= 3.28 I= 1.00	PERCEPTIVES	
E S T P N= 1 %= 0.82 I= 0.46	E S F P N= 4 %= 3.28 I= 0.58	E N F P N= 18 %=14.75 I= 0.84	E N T P N= 10 %= 8.20 I= 1.73"		EXTRAVERTS
E S T J N= 8 %= 6.56 I= 1.30	E S F J N= 12 %= 9.84 I= 0.83	E N F J N= 11 %= 9.02 I= 0.92	E N T J N= 7 %= 5.74 I= 1.29	JUDGING	

	N	%	I
E	71	58.20	0.96
I	51	41.80	1.07
S	47	38.52	0.89
N	75	61.48	1.08
T	43	35.25	1.25"
F	79	64.75	0.90"
J	63	51.64	1.07
P	59	48.36	0.94
IJ	25	20.49	1.19
IP	26	21.31	0.97
EP	33	27.05	0.91
EJ	38	31.15	1.00
ST	17	13.93	1.07
SF	30	24.59	0.81
NF	49	40.16	0.97
NT	26	21.31	1.41"
SJ	32	26.23	0.97
SP	15	12.30	0.75
NP	44	36.07	1.02
NJ	31	25.41	1.19
TJ	25	20.49	1.30
TP	18	14.75	1.18
FP	41	33.61	0.86
FJ	38	31.15	0.95
IN	29	23.77	1.18
EN	46	37.70	1.03
IS	22	18.03	0.95
ES	25	20.49	0.84

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF STUDENTS AND PRACTITIONERS IN SPEECH PATHOLOGY
BASE TOTAL N = 337. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.76	0.20	1.99	0.29
1.00	0.08	0.00	1.00
0.42	0.22	1.00	5.03
0.91	0.76	0.13	0.74

E	0.56	IJ	1.44	SJ	0.06	IN	1.53
I	0.56	IP	0.05	SP	2.27	EN	0.12
S	1.79	EP	0.63	NP	0.05	IS	0.11
N	1.79	EJ	0.00	NJ	1.86	ES	1.53
T	4.70	ST	0.13	TJ	3.28		
F	4.70	SF	2.92	TP	0.92		
J	0.82	NF	0.15	FP	2.48		
P	0.82	NT	5.68	FJ	0.19		

```
SOURCE OF DATA:                       GROUP                   MBTI TYPE TABLE
                                    TABULATED:           CENTER FOR APPLICATIONS
MARY H. MCCAULLEY, PH.D.                                   OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS        SPEECH PATHOLOGISTS
HEW CONTRACT 231-76-0051        WITH BACCALAUREATE       LEGEND: % = PERCENT OF
 AMSA FOUNDATION - CAPT              DEGREES             TOTAL CHOOSING THIS GROUP
                                                         WHO FALL INTO THIS TYPE.
TABLE CREATED 7/31/77                                    I = SELFSELECTION INDEX;
                                                         RATIO OF PERCENT OF TYPE
                                     N=    40            IN GROUP TO % IN SAMPLE.

TABLE R-6

     SENSING TYPES              INTUITIVE TYPES
WITH          WITH          WITH          WITH                           N     %      I
THINKING      FEELING       FEELING       THINKING
--------------------------------------------------------           E    28  70.00   1.20
| I S T J    | I S F J    | I N F J    | I N T J    |  J          I    12  30.00   0.72
|            |            |            |            |  U
| N=   1     | N=   3     | N=   1     | N=   4     |  D          S    15  37.50   0.97
|            |            |            |            |  G          N    25  62.50   1.02
| %= 2.50    | %= 7.50    | %= 2.50    | %=10.00    |  I
|            |            |            |            |  N  I       T    16  40.00   1.13
| I= 0.61    | I= 1.31    | I= 0.38    | I= 2.44"   |  G  N       F    24  60.00   0.93
|            |            |            |            |     T
--------------------------------------------------------    R       J    25  62.50   1.21
| I S T P    | I S F P    | I N F P    | I N T P    |     O       P    15  37.50   0.78
|            |            |            |            |     V
| N=   0     | N=   2     | N=   0     | N=   1     |     E       IJ    9  22.50   1.10
|            |            |            |            |     R       IP    3   7.50   0.35#
| %= 0.0     | %= 5.00    | %= 0.0     | %= 2.50    |     T
|            |            |            |            |     S       EP   12  30.00   1.11
| I= 0.0     | I= 0.87    | I= 0.0 "   | I= 0.76    |  P          EJ   16  40.00   1.28
|            |            |            |            |  E
--------------------------------------------------------  R          ST    5  12.50   0.90
| E S T P    | E S F P    | E N F P    | E N T P    |  C          SF   10  25.00   1.02
|            |            |            |            |  E
| N=   0     | N=   0     | N=   7     | N=   5     |  P          NF   14  35.00   0.87
|            |            |            |            |  T          NT   11  27.50   1.29
| %= 0.0     | %= 0.0     | %=17.50    | %=12.50    |  I
|            |            |            |            |  V          SJ   13  32.50   1.24
| I= 0.0     | I= 0.0     | I= 1.19    | I= 1.52    |  E          SP    2   5.00   0.41
|            |            |            |            |  S  E
--------------------------------------------------------     X      NP   13  32.50   0.90
| E S T J    | E S F J    | E N F J    | E N T J    |     T      NJ   12  30.00   1.18
|            |            |            |            |     R
| N=   4     | N=   5     | N=   6     | N=   1     |     A      TJ   10  25.00   1.22
|            |            |            |            |  J  V      TP    6  15.00   1.02
| %=10.00    | %=12.50    | %=15.00    | %= 2.50    |  U  E
|            |            |            |            |  D  R      FP    9  22.50   0.67
| I= 1.52    | I= 1.27    | I= 1.66    | I= 0.44    |  G  T      FJ   15  37.50   1.20
|            |            |            |            |  I  S
--------------------------------------------------------  N         IN    6  15.00   0.63
                                                          G         EN   19  47.50   1.26

                                                                    IS    6  15.00   0.83
                                                                    ES    9  22.50   1.10

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "   IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
         #   IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
         *   IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COMPOSITE OF PRACTITIONERS IN SPEECH PATHOLOGY
   BASE TOTAL N =    122. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER             E   3.41   IJ   0.15   SJ   1.21   IN   2.53
                                     I   3.41   IP   0.01   SP   0.14   EN   2.43
 0.67     0.68     0.27     0.04                EP   0.26   NP   0.33   IS   0.37
                                     S   0.03   EJ   2.17   NJ   0.66   ES   0.15
 0.55     1.00     0.02     1.00     N   0.03
                                                ST   0.79   TJ   0.74
 1.00     0.30     0.36     0.29     T   0.59   SF   0.01   TP   0.00
                                     F   0.59   NF   0.66   FP   3.29
 0.44     0.53     0.17     0.42                NT   1.36   FJ   1.12
                                     J   2.81
                                     P   2.81
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

SPEECH PATHOLOGISTS
WITH GRADUATE
DEGREES

N= 31

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE R-7

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 2 %= 6.45 I= 1.57	I S F J N= 3 %= 9.68 I= 1.69	I N F J N= 1 %= 3.23 I= 0.49	I N T J N= 1 %= 3.23 I= 0.79	JUDGING INTROVERTS
I S T P N= 1 %= 3.23 I= 1.31	I S F P N= 3 %= 9.68 I= 1.69	I N F P N= 6 %=19.35 I= 1.97"	I N T P N= 2 %= 6.45 I= 1.97	PERCEPTIVES INTROVERTS
E S T P N= 0 %= 0.0 I= 0.0	E S F P N= 1 %= 3.23 I= 0.98	E N F P N= 3 %= 9.68 I= 0.66	E N T P N= 1 %= 3.23 I= 0.39	PERCEPTIVES EXTRAVERTS
E S T J N= 2 %= 6.45 I= 0.98	E S F J N= 0 %= 0.0 I= 0.0 "	E N F J N= 0 %= 0.0 I= 0.0	E N T J N= 5 %=16.13 I= 2.81"	JUDGING EXTRAVERTS

	N	%	I
E	12	38.71	0.67"
I	19	61.29	1.47"
S	12	38.71	1.00
N	19	61.29	1.00
T	14	45.16	1.28
F	17	54.84	0.85
J	14	45.16	0.87
P	17	54.84	1.13
IJ	7	22.58	1.10
IP	12	38.71	1.82#
EP	5	16.13	0.60
EJ	7	22.58	0.72
ST	5	16.13	1.16
SF	7	22.58	0.92
NF	10	32.26	0.80
NT	9	29.03	1.36
SJ	7	22.58	0.86
SP	5	16.13	1.31
NP	12	38.71	1.07
NJ	7	22.58	0.89
TJ	10	32.26	1.57
TP	4	12.90	0.87
FP	13	41.94	1.25
FJ	4	12.90	0.41"
IN	10	32.26	1.36
EN	9	29.03	0.77
IS	9	29.03	1.61
ES	3	9.68	0.47

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
COMPOSITE OF PRACTITIONERS IN SPEECH PATHOLOGY
BASE TOTAL N = 122. SAMPLE AND BASE ARE DEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.60	0.37	0.46	1.00
1.00	0.37	4.25	0.57
1.00	1.00	0.40	0.30
1.00	0.94	0.96	0.01

E	6.49	IJ	0.11	SJ	0.29	IN	1.65
I	6.49	IP	7.50	SP	0.53	EN	1.33
		EP	0.16	NP	0.13	IS	3.40
S	0.00	EJ	1.42	NJ	0.18	ES	0.12
N	0.00						
		ST	0.76	TJ	3.53		
T	1.79	SF	0.09	TP	0.78		
F	1.79	NF	1.08	FP	1.29		
		NT	1.48	FJ	0.01		
J	0.70						
P	0.70						

Appendix S

Other Health-Related Fields

Table Number	Name of Group Tabulated	Number in Group	Compared to Base
S 1	All Students and Practitioners	866	32,271
S 2	All Students in Other Health-Related Fields	422	6,738
S 3	All Practitioners in Other Health-Related Fields	444	6,738
S 4	Cardiovascular Technology Students	52	6,738
S 5	Health Administration Students & Practitioners	60	6,738
S 6	Health Educators	182	6,738
S 7	Medical Assistant Students and Practitioners	78	6,738
S 8	Medical Assistants	53	78
S 9	Medical Communications Students	48	6,738
S 10	Medical Records Students & Practitioners	98	6,738
S 11	Medical Records Students	53	6,738
S 12	Medical Records Personnel	45	6,738
S 13	Community Outreach Workers	46	6,738

```
SOURCE OF DATA:                       GROUP                 MBTI TYPE TABLE
                                    TABULATED:           CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                 OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS         COMPOSITE:  STUDENTS
 HEW CONTRACT 231-76-0051        AND PRACTITIONERS IN    LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT            OTHER HEALTH         TOTAL CHOOSING THIS GROUP
                                 RELATED PROFESSIONS     WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                   I = SELFSELECTION INDEX:
                                                         RATIO OF PERCENT OF TYPE
                                      N=   866           IN GROUP TO % IN SAMPLE.
 TABLE S-1

      SENSING TYPES               INTUITIVE TYPES
 WITH          WITH          WITH          WITH                        N     %       I
 THINKING      FEELING       FEELING       THINKING
 ---------------------------------------------------------     E     504  58.20   1.11*
| I S T J    | I S F J    | I N F J    | I N T J    | J        I     362  41.80   0.88*
|            |            |            |            | U
|            |            |            |            | D        S     488  56.35   1.10#
| N=  62     | N= 101     | N=  30     | N=  33     | G        N     378  43.65   0.90#
|            |            |            |            | I
| %= 7.16    | %=11.66    | %= 3.46    | %= 3.81    | N  I     T     312  36.03   0.99
|            |            |            |            | G  N     F     554  63.97   1.00
| I= 0.86    | I= 1.11    | I= 0.65"   | I= 0.94    |    T
|            |            |            |            |    R     J     516  59.58   1.01
 ---------------------------------------------------------  O     P     350  40.42   0.99
| I S T P    | I S F P    | I N F P    | I N T P    |    V
|            |            |            |            |    E     IJ    226  26.10   0.92
|            |            |            |            |    R     IP    136  15.70   0.81#
| N=  20     | N=  40     | N=  53     | N=  23     |    T
|            |            |            |            |    S     EP    214  24.71   1.15"
| %= 2.31    | %= 4.62    | %= 6.12    | %= 2.66    | P        EJ    290  33.49   1.08
|            |            |            |            | E
| I= 0.99    | I= 1.01    | I= 0.70#   | I= 0.72    | R        ST    174  20.09   0.99
|            |            |            |            | C        SF    314  36.26   1.17*
 --------------------------------------------------------- E
| E S T P    | E S F P    | E N F P    | E N T P    | P        NF    240  27.71   0.85#
|            |            |            |            | T        NT    138  15.94   1.00
|            |            |            |            | I
| N=  23     | N=  61     | N=  91     | N=  39     | V        SJ    344  39.72   1.05
|            |            |            |            | E        SP    144  16.63   1.24#
| %= 2.66    | %= 7.04    | %=10.51    | %= 4.50    | S  E
|            |            |            |            |    X     NP    206  23.79   0.87"
| I= 1.36    | I= 1.53*   | I= 0.93    | I= 1.24    |    T     NJ    172  19.86   0.93
|            |            |            |            |    R
 ---------------------------------------------------------  A     TJ    207  23.90   0.97
| E S T J    | E S F J    | E N F J    | E N T J    | J  V     TP    105  12.12   1.05
|            |            |            |            | U  E
|            |            |            |            | D  R     FP    245  28.29   0.97
| N=  69     | N= 112     | N=  66     | N=  43     | G  T     FJ    309  35.68   1.04
|            |            |            |            | I  S
| %= 7.97    | %=12.93    | %= 7.62    | %= 4.97    | N        IN    139  16.05   0.73*
|            |            |            |            | G        EN    239  27.60   1.03
| I= 1.03    | I= 1.14    | I= 1.05    | I= 1.08    |
|            |            |            |            |          IS    223  25.75   1.00
 ---------------------------------------------------------           ES    265  30.60   1.20*

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
          "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
          #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
          *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   COMPOSITE OF STUDENTS & PRACTITIONERS IN ALL HEALTH AND HEALTH RELATED FIELDS.
   BASE TOTAL N = 32271. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

         TYPE TABLE ORDER               E   12.12    IJ    2.11    SJ    1.20    IN  17.52
                                        I   12.12    IP    7.55    SP    7.80    EN   0.31
 1.67      1.23      6.24      0.14                  EP    5.53    NP    5.78    IS   0.00
                                        S    8.82    EJ    2.80    NJ    1.02    ES  11.72
 0.00      0.01      7.68      2.69     N    8.82
                                                     ST    0.04    TJ    0.34
 2.57     11.94      0.58      1.98     T    0.03    SF   11.45    TP    0.26
                                        F    0.03    NF    9.91    FP    0.39
 0.06      2.32      0.18      0.30                  NT    0.00    FJ    0.61
                                        J    0.06
                                        P    0.06
```

```
SOURCE OF DATA:                        GROUP                  MBTI TYPE TABLE
                                     TABULATED:          CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                 OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS            COMPOSITE OF
 HEW CONTRACT 231-76-0051           STUDENTS IN          LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT            OTHER HEALTH         TOTAL CHOOSING THIS GROUP
                                   RELATED FIELDS        WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                   I = SELFSELECTION INDEX;
                                                         RATIO OF PERCENT OF TYPE
                                      N=  422            IN GROUP TO % IN SAMPLE.
 TABLE S-2

     SENSING TYPES               INTUITIVE TYPES
 WITH          WITH          WITH          WITH                          N      %       I
 THINKING      FEELING       FEELING       THINKING
-------------------------------------------------------          E     263  62.32   1.11"
| I S T J    | I S F J    | I N F J    | I N T J    |  J         I     159  37.68   0.86"
|            |            |            |            |  U
|            |            |            |            |  D         S     235  55.69   0.98
| N=  26     | N=  35     | N=  11     | N=  13     |  G         N     187  44.31   1.03
|            |            |            |            |  I
| %= 6.16    | %= 8.29    | %= 2.61    | %= 3.08    |  N I       T     141  33.41   0.95
|            |            |            |            |  G N       F     281  66.59   1.03
| I= 1.00    | I= 1.13    | I= 0.87    | I= 1.35    |    T
|            |            |            |            |    R       J     226  53.55   1.23*
-------------------------------------------------------    O       P     196  46.45   0.82*
| I S T P    | I S F P    | I N F P    | I N T P    |    V
|            |            |            |            |    E       IJ     85  20.14   1.07
|            |            |            |            |    R       IP     74  17.54   0.70*
| N=  12     | N=  24     | N=  25     | N=  13     |    T
|            |            |            |            |    S       EP    122  28.91   0.92
| %= 2.84    | %= 5.69    | %= 5.92    | %= 3.08    |  P         EJ    141  33.41   1.35*
|            |            |            |            |  E
| I= 0.73    | I= 0.74    | I= 0.63"   | I= 0.77    |  R         ST     77  18.25   0.85
|            |            |            |            |  C         SF    158  37.44   1.06
-------------------------------------------------------  E
| E S T P    | E S F P    | E N F P    | E N T P    |  P         NF    123  29.15   0.99
|            |            |            |            |  T         NT     64  15.17   1.11
|            |            |            |            |  I
| N=  12     | N=  42     | N=  50     | N=  18     |  V         SJ    145  34.36   1.10
|            |            |            |            |  E         SP     90  21.33   0.83"
| %= 2.84    | %= 9.95    | %=11.85    | %= 4.27    |  S E
|            |            |            |            |    X       NP    106  25.12   0.82"
| I= 0.65    | I= 1.03    | I= 0.92    | I= 0.94    |    T       NJ     81  19.19   1.57*
|            |            |            |            |    R
-------------------------------------------------------    A       TJ     86  20.38   1.12
| E S T J    | E S F J    | E N F J    | E N T J    |  J V       TP     55  13.03   0.77"
|            |            |            |            |  U E
|            |            |            |            |  D R       FP    141  33.41   0.34"
| N=  27     | N=  57     | N=  37     | N=  20     |  G T       FJ    140  33.18   1.31*
|            |            |            |            |  I S
| %= 6.40    | %=13.51    | %= 8.77    | %= 4.74    |  N         IN     62  14.69   0.79"
|            |            |            |            |  G         EN    125  29.62   1.22"
| I= 0.91    | I= 1.26    | I= 2.09*   | I= 1.72"   |
|            |            |            |            |            IS     97  22.99   0.92
-------------------------------------------------------            ES    138  32.70   1.03

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
   BASE TOTAL N =  6738. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER             E    5.96    IJ   0.49    SJ   1.76    IN   4.18
                                     I    5.96    IP  11.88    SP   3.99    EN   5.89
 0.00     0.54     0.23     1.10                  EP   1.25    NP   6.04    IS   0.93
                                     S    0.26    EJ  15.82    NJ  17.36    ES   0.12
 1.18     2.33     5.61     0.92     N    0.26
                                                  ST   2.49    TJ   1.21
 2.35     0.03     0.38     0.07     T    0.50    SF   0.67    TP   4.19
                                     F    0.50    NF   0.02    FP   6.43
 0.26     3.12    19.59     5.57                  NT   0.81    FJ  12.97
                                     J   16.24
                                     P   16.24
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

COMPOSITE OF
PRACTITIONERS IN
OTHER HEALTH
RELATED PROFFSSIONS

N= 444

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE S-3

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 36 %= 8.11 I= 1.32	I S F J N= 66 %=14.86 I= 2.03*	I N F J N= 19 %= 4.28 I= 1.42	I N T J N= 20 %= 4.50 I= 1.97#	JUDGING INTROVERTS
I S T P N= 8 %= 1.80 I= 0.46"	I S F P N= 16 %= 3.60 I= 0.47#	I N F P N= 28 %= 6.31 I= 0.67"	I N T P N= 10 %= 2.25 I= 0.56	PERCEPTIVES INTROVERTS
E S T P N= 11 %= 2.48 I= 0.56	E S F P N= 19 %= 4.28 I= 0.44*	E N F P N= 41 %= 9.23 I= 0.72"	E N T P N= 21 %= 4.73 I= 1.04	PERCEPTIVES EXTRAVERTS
E S T J N= 42 %= 9.46 I= 1.34	E S F J N= 55 %=12.39 I= 1.15	E N F J N= 29 %= 6.53 I= 1.56"	E N T J N= 23 %= 5.18 I= 1.88#	JUDGING EXTRAVERTS

	N	%	I
E	241	54.28	0.96
I	203	45.72	1.05
S	253	56.98	1.00
N	191	43.02	1.00
T	171	38.51	1.10
F	273	61.49	0.95
J	290	65.32	1.50*
P	154	34.68	0.61*
IJ	141	31.76	1.69*
IP	62	13.96	0.56*
EP	92	20.72	0.66*
EJ	149	33.56	1.36*
ST	97	21.85	1.02
SF	156	35.14	0.99
NF	117	26.35	0.90
NT	74	16.67	1.22
SJ	199	44.82	1.43*
SP	54	12.16	0.47*
NP	100	22.52	0.73*
NJ	91	20.50	1.67*
TJ	121	27.25	1.49*
TP	50	11.26	0.67#
FP	104	23.42	0.59*
FJ	169	38.06	1.51*
IN	77	17.34	0.93
EN	114	25.68	1.05
IS	126	28.38	1.13
ES	127	28.60	0.90

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIFS SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
BASE TOTAL N = 6738. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

2.74	32.88	2.23	8.68
5.01	10.21	4.64	3.47
3.78	14.33	5.01	0.03
3.62	1.16	5.54	8.63

E	0.66	IJ	44.59	SJ	35.08	IN	0.49
I	0.66	IP	27.47	SP	40.82	EN	0.38
		EP	22.72	NP	13.50	IS	2.40
S	0.00	EJ	17.15	NJ	25.49	ES	2.06
N	0.00						
		ST	0.03	TJ	22.17		
T	2.13	SF	0.02	TP	9.47		
F	2.13	NF	1.91	FP	46.13		
		NT	3.27	FJ	35.35		
J	80.04						
P	80.04						

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

CARDIOVASCULAR
TECHNOLOGY
STUDENTS

N= 52

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX; RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE S-4

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 3 %= 5.77 I= 0.94	I S F J N= 4 %= 7.69 I= 1.05	I N F J N= 0 %= 0.0 I= 0.0	I N T J N= 6 %=11.54 I= 5.05*	JUDGING INTROVERTS
I S T P N= 3 %= 5.77 I= 1.48	I S F P N= 3 %= 5.77 I= 0.75	I N F P N= 1 %= 1.92 I= 0.21	I N T P N= 2 %= 3.85 I= 0.96	PERCEPTIVES INTROVERTS
E S T P N= 1 %= 1.92 I= 0.44	E S F P N= 1 %= 1.92 I= 0.20	E N F P N= 2 %= 3.85 I= 0.30	E N T P N= 3 %= 5.77 I= 1.27	PERCEPTIVES EXTRAVERTS
E S T J N= 4 %= 7.69 I= 1.09	E S F J N= 4 %= 7.69 I= 0.72	E N F J N= 6 %=11.54 I= 2.76#	E N T J N= 9 %=17.31 I= 6.27*	JUDGING EXTRAVERTS

	N	%	I
E	30	57.69	1.03
I	22	42.31	0.97
S	23	44.23	0.78
N	29	55.77	1.30
T	31	59.62	1.70*
F	21	40.38	0.62*
J	36	69.23	1.59*
P	16	30.77	0.54*
IJ	13	25.00	1.33
IP	9	17.31	0.69
EP	7	13.46	0.43#
EJ	23	44.23	1.79#
ST	11	21.15	0.98
SF	12	23.08	0.65
NF	9	17.31	0.59
NT	20	38.46	2.83*
SJ	15	28.85	0.92
SP	8	15.38	0.60
NP	8	15.38	0.50"
NJ	21	40.38	3.30*
TJ	22	42.31	2.32*
TP	9	17.31	1.03
FP	7	13.46	0.34*
FJ	14	26.92	1.07
IN	9	17.31	0.93
EN	20	38.46	1.58"
IS	13	25.00	1.00
ES	10	19.23	0.60"

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
(UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
BASE TOTAL N = 6738. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.95	0.94	0.27	19.20
0.70	0.51	2.08	0.97
0.50	0.06	0.06	0.69
0.93	0.50	6.87	39.15

E	0.04	IJ	1.31	SJ	0.14	IN	0.06
I	0.04	IP	1.62	SP	2.88	EN	5.54
		EP	7.81	NP	5.76	IS	0.00
S	3.41	EJ	10.49	NJ	37.46	ES	3.81
N	3.41						
		ST	0.00	TJ	19.89		
T	13.58	SF	3.47	TP	0.01		
F	13.58	NF	3.66	FP	14.79		
		NT	26.79	FJ	0.07		
J	13.87						
P	13.87						

```
SOURCE OF DATA:                          GROUP                   MBTI TYPE TABLE
                                      TABULATED:            CENTER FOR APPLICATIONS
  MARY H. MCCAULLEY, PH.D.                                    OF PSYCHOLOGICAL TYPE
   AND OTHER CONTRIBUTORS                HEALTH
 HEW CONTRACT 231-76-0051            ADMINISTRATION         LEGEND: % = PERCENT OF
   AMSA FOUNDATION - CAPT             STUDENTS AND          TOTAL CHOOSING THIS GROUP
                                     PRACTITIONERS          WHO FALL INTO THIS TYPE.
  TABLE CREATED 7/31/77                                     I = SELFSELECTION INDEX:
                                                            RATIO OF PERCENT OF TYPE
                                        N=    60            IN GROUP TO % IN SAMPLE.

  TABLE S-5

      SENSING TYPES                 INTUITIVE TYPES
 WITH           WITH           WITH           WITH                          N     %       I
 THINKING       FEELING        FEELING        THINKING
-----------------------------------------------------------            E   36  60.00   1.07
| I S T J    | I S F J     | I N F J     | I N T J     | J             I   24  40.00   0.91
|            |             |             |             | U
|            |             |             |             | D             S   24  40.00   0.70#
| N=   5     | N=    8     | N=    1     | N=    1     | G             N   36  60.00   1.39#
|            |             |             |             | I
| %= 8.33    | %=13.33     | %= 1.67     | %= 1.67     | N I           T   23  38.33   1.09
|            |             |             |             | G N           F   37  61.67   0.95
| I= 1.36    | I= 1.82     | I= 0.55     | I= 0.73     |   T
|            |             |             |             |   R           J   42  70.00   1.61*
-----------------------------------------------------------   O         P   18  30.00   0.53*
| I S T P    | I S F P     | I N F P     | I N T P     |   V
|            |             |             |             |   E         IJ   15  25.00   1.33
|            |             |             |             |   R         IP    9  15.00   0.60
| N=   3     | N=    0     | N=    5     | N=    1     |   T
|            |             |             |             |   S         EP    9  15.00   0.48#
| %= 5.00    | %= 0.0      | %= 8.33     | %= 1.67     | P           EJ   27  45.00   1.82*
|            |             |             |             | E
| I= 1.29    | I= 0.0 "    | I= 0.89     | I= 0.41     | R           ST   12  20.00   0.93
|            |             |             |             | C           SF   12  20.00   0.56"
-----------------------------------------------------------  E
| E S T P    | E S F P     | E N F P     | E N T P     | P           NF   25  41.67   1.42"
|            |             |             |             | T           NT   11  18.33   1.35
|            |             |             |             | I
| N=   2     | N=    0     | N=    3     | N=    4     | V           SJ   19  31.67   1.01
|            |             |             |             | E           SP    5   8.33   0.32#
| %= 3.33    | %= 0.0      | %= 5.00     | %= 6.67     | S E
|            |             |             |             |   X         NP   13  21.67   0.70
| I= 0.76    | I= 0.0 "    | I= 0.39     | I= 1.47     |   T         NJ   23  38.33   3.13*
|            |             |             |             |   R
-----------------------------------------------------------   A         TJ   13  21.67   1.19
| E S T J    | E S F J     | E N F J     | E N T J     | J V         TP   10  16.67   0.99
|            |             |             |             | U E
|            |             |             |             | D R         FP    8  13.33   0.34*
| N=   2     | N=    4     | N=   16     | N=    5     | G T         FJ   29  48.33   1.91*
|            |             |             |             | I S
| %= 3.33    | %= 6.67     | %=26.67     | %= 8.33     | N           IN    8  13.33   0.71
|            |             |             |             | G           EN   28  46.67   1.91*
| I= 0.47    | I= 0.62     | I= 6.37*    | I= 3.02"    |
|            |             |             |             |             IS   16  26.67   1.06
-----------------------------------------------------------             ES    8  13.33   0.42#

    NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
         #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
         *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

    BASE POPULATION USED IN CALCULATING SELECTION RATIO:
    HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
    BASE TOTAL N =  6738. SAMPLE AND BASE ARE INDEPENDENT.

  * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

       TYPE TABLE ORDER                E    0.34   IJ   1.51   SJ   0.00   IN   1.12
                                       I    0.34   IP   3.17   SP   0.00   EN  15.96
  0.58     3.13     0.70     0.93                  EP   7.53   NP   2.33   IS   0.08
                                       S    6.97   EJ  13.05   NJ  37.07   ES   9.44
  0.69     0.02     0.82     0.50      N    6.97
                                                   ST   0.08   TJ   0.47
  0.76     0.01     0.07     0.49      T    0.27   SF   6.23   TP   0.00
                                       F    0.27   NF   4.28   FP  17.22
  0.30     0.39    71.71     0.02                  NT   1.13   FJ  16.65
                                       J   16.95
                                       P   16.95
```

```
SOURCE OF DATA:                        GROUP                MBTI TYPE TABLE
                                     TABULATED:         CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY. PH.D.                                OF PSYCHOLOGICAL TYPE
  AND OTHER CONTRIBUTORS           HEALTH EDUCATION
 HEW CONTRACT 231-76-0051           PRACTITIONERS       LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT                                TOTAL CHOOSING THIS GROUP
                                                        WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                  I = SELFSELECTION INDEX:
                                                        RATIO OF PERCENT OF TYPE
                                       N=  182          IN GROUP TO % IN SAMPLE.

 TABLE S-6

      SENSING TYPES               INTUITIVE TYPES
 WITH          WITH          WITH          WITH                            N     %      I
 THINKING      FEELING       FEELING       THINKING
---------------------------------------------------------              E     99 54.40  0.97
| I S T J     | I S F J     | I N F J     | I N T J     |  J           I     83 45.60  1.04
|             |             |             |             |  U
|             |             |             |             |  D           S    104 57.14  1.00
| N=  15      | N=  27      | N=   7      | N=   9      |  G           N     78 42.86  1.00
|             |             |             |             |  I
| %= 8.24     | %=14.84     | %= 3.85     | %= 4.95     |  N  I        T     68 37.36  1.06
|             |             |             |             |  G  N        F    114 62.64  0.97
| I= 1.34     | I= 2.02*    | I= 1.28     | I= 2.16"    |     T
|             |             |             |             |     R        J    122 67.03  1.54*
---------------------------------------------------------     O        P     60 32.97  0.58*
| I S T P     | I S F P     | I N F P     | I N T P     |     V
|             |             |             |             |     E        IJ    58 31.87  1.70*
|             |             |             |             |     R        IP    25 13.74  0.55*
| N=   3      | N=  11      | N=   9      | N=   2      |     T
|             |             |             |             |     S        EP    35 19.23  0.61*
| %= 1.65     | %= 6.04     | %= 4.95     | %= 1.10     |  P           EJ    64 35.16  1.42#
|             |             |             |             |  E
| I= 0.42     | I= 0.78     | I= 0.53"    | I= 0.27"    |  R           ST    35 19.23  0.89
|             |             |             |             |  C           SF    69 37.91  1.07
---------------------------------------------------------  E
| E S T P     | E S F P     | E N F P     | E N T P     |  P           NF    45 24.73  0.84
|             |             |             |             |  T           NT    33 18.13  1.33
|             |             |             |             |  I
| N=   5      | N=   4      | N=  14      | N=  12      |  V           SJ    81 44.51  1.42*
|             |             |             |             |  E           SP    23 12.64  0.49*
| %= 2.75     | %= 2.20     | %= 7.69     | %= 6.59     |  S  E
|             |             |             |             |     X        NP    37 20.33  0.66#
| I= 0.62     | I= 0.23*    | I= 0.60"    | I= 1.45     |     T        NJ    41 22.53  1.84*
|             |             |             |             |     R
---------------------------------------------------------     A        TJ    46 25.27  1.39"
| E S T J     | E S F J     | E N F J     | E N T J     |  J  V        TP    22 12.09  0.72
|             |             |             |             |  U  E
|             |             |             |             |  D  R        FP    38 20.88  0.53*
| N=  12      | N=  27      | N=  15      | N=  10      |  G  T        FJ    76 41.76  1.65*
|             |             |             |             |  I  S
| %= 6.59     | %=14.84     | %= 8.24     | %= 5.49     |  N           IN    27 14.84  0.79
|             |             |             |             |  G           EN    51 28.02  1.15
| I= 0.94     | I= 1.38     | I= 1.97#    | I= 1.99"    |
|             |             |             |             |              IS    56 30.77  1.23
---------------------------------------------------------              ES    48 26.37  0.83

  NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL. I.E.. CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL. I.E.. CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL. I.E.. CHI SQ. > 10.8.
  (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
   BASE TOTAL N =  6738. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER            E   0.25   IJ  19.65   SJ  14.36   IN   1.72
                                    I   0.25   IP  12.05   SP  15.96   EN   1.28
 1.34     14.33     0.42     5.45              EP  12.45   NP   9.15   IS   3.04
                                    S   0.00   EJ  10.27   NJ  17.12   ES   2.48
 0.16      0.70     4.10     0.05   N   0.00
                                               ST   0.54   TJ   5.84
 0.35      0.00     4.29     1.70   T   0.40   SF   0.46   TP   2.90
                                    F   0.40   NF   1.89   FP  26.15
 0.06      3.06     7.10     4.81              NT   3.06   FJ  25.21
                                    J  39.76
                                    P  39.76
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

MEDICAL ASSISTANT
STUDENTS AND
PRACTITIONERS

N= 78

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE S-7

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING		
I S T J N= 2 %= 2.56 I= 0.42	I S F J N= 5 %= 6.41 I= 0.87	I N F J N= 7 %= 8.97 I= 2.98#	I N T J N= 2 %= 2.56 I= 1.12	JUDGING	INTROVERTS
I S T P N= 2 %= 2.56 I= 0.66	I S F P N= 6 %= 7.69 I= 1.00	I N F P N= 3 %= 3.85 I= 0.41	I N T P N= 3 %= 3.85 I= 0.96	PERCEPTIVES	
E S T P N= 0 %= 0.0 I= 0.0	E S F P N= 10 %=12.82 I= 1.32	E N F P N= 12 %=15.38 I= 1.19	E N T P N= 3 %= 3.85 I= 0.85		EXTRAVERTS
E S T J N= 7 %= 8.97 I= 1.27	E S F J N= 12 %=15.38 I= 1.43	E N F J N= 3 %= 3.85 I= 0.92	E N T J N= 1 %= 1.28 I= 0.46	JUDGING	

	N	%	I
E	48	61.54	1.09
I	30	38.46	0.88
S	44	56.41	0.99
N	34	43.59	1.01
T	20	25.64	0.73
F	58	74.36	1.15
J	39	50.00	1.15
P	39	50.00	0.89
IJ	16	20.51	1.09
IP	14	17.95	0.72
EP	25	32.05	1.02
EJ	23	29.49	1.19
ST	11	14.10	0.66
SF	33	42.31	1.19
NF	25	32.05	1.09
NT	9	11.54	0.85
SJ	26	33.33	1.07
SP	18	23.08	0.90
NP	21	26.92	0.87
NJ	13	16.67	1.36
TJ	12	15.38	0.84
TP	8	10.26	0.61
FP	31	39.74	1.00
FJ	27	34.62	1.37
IN	15	19.23	1.03
EN	19	24.36	1.00
IS	15	19.23	0.77
ES	29	37.18	1.17

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
BASE TOTAL N = 6738. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.23	0.78	9.18	0.54
0.58	0.00	0.11	0.94
0.08	0.87	0.43	0.76
0.43	1.72	0.97	0.50

E	0.88	IJ	0.15	SJ	0.15	IN	0.02
I	0.88	IP	2.04	SP	0.28	EN	0.00
S	0.01	EP	0.01	NP	0.54	IS	1.41
N	0.01	EJ	0.93	NJ	1.40	ES	1.00
T	3.03	ST	2.50	TJ	0.42		
F	3.03	SF	1.57	TP	2.41		
J	1.32	NF	0.25	FP	0.00		
P	1.32	NT	0.28	FJ	3.55		

```
SOURCE OF DATA:                        GROUP                  MBTI TYPE TABLE
                                     TABULATED:           CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                   OF PSYCHOLOGICAL TYPE
  AND CTHER CONTRIBUTORS            MEDICAL ASSISTANT
 HEW CCNTRACT 231-76-0051             PRACTITIONERS        LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT                                   TOTAL CHOOSING THIS GROUP
                                                           WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                     I = SELFSELECTION INDEX;
                                                           RATIO OF PERCENT OF TYPE
                                       N=    53            IN GROUP TO % IN SAMPLE.
 TABLE S-8

       SENSING TYPES               INTUITIVE TYPES
WITH          WITH          WITH          WITH                           N     %       I
THINKING      FEELING       FEELING       THINKING
-------------------------------------------------------          E     30 56.60   0.92
| I S T J    | I S F J    | I N F J    | I N T J    |  J        I     23 43.40   1.13
|            |            |            |            |  U
|            |            |            |            |  D        S     24 45.28   0.80#
| N=   2     | N=   3     | N=   5     | N=   2     |  G        N     29 54.72   1.26#
|            |            |            |            |  I
| %= 3.77    | %= 5.66    | %= 9.43    | %= 3.77    |  N  I     T     19 35.85   1.40#
|            |            |            |            |  G  N     F     34 64.15   0.86#
| I= 1.47    | I= 0.88    | I= 1.05    | I= 1.47    |     T
|            |            |            |            |     R     J     25 47.17   0.94
-------------------------------------------------------     O     P     28 52.83   1.06
| I S T P    | I S F P    | I N F P    | I N T P    |     V
|            |            |            |            |     E     IJ    12 22.64   1.10
|            |            |            |            |     R     IP    11 20.75   1.16
| N=   2     | N=   3     | N=   3     | N=   3     |     T
|            |            |            |            |     S     EP    17 32.08   1.00
| %= 3.77    | %= 5.66    | %= 5.66    | %= 5.66    |  P        EJ    13 24.53   0.83
|            |            |            |            |  E
| I= 1.47    | I= 0.74    | I= 1.47    | I= 1.47    |  R        ST    10 18.87   1.34
|            |            |            |            |  C        SF    14 26.42   0.62*
-------------------------------------------------------  E
| E S T P    | E S F P    | E N F P    | E N T P    |  P        NF    20 37.74   1.18
|            |            |            |            |  T        NT     9 16.98   1.47
|            |            |            |            |  I
| N=   0     | N=   4     | N=  10     | N=   3     |  V        SJ    15 28.30   0.85
|            |            |            |            |  E        SP     9 16.98   0.74
| %= 0.0     | %= 7.55    | %=18.87    | %= 5.66    |  S  E     NP    19 35.85   1.33"
|            |            |            |            |     X     NJ    10 18.87   1.13
| I= 0.0     | I= 0.59    | I= 1.23    | I= 1.47    |     T
|            |            |            |            |     R
-------------------------------------------------------     A     TJ    11 20.75   1.35
| E S T J    | E S F J    | E N F J    | E N T J    |  J  V     TP     8 15.09   1.47"
|            |            |            |            |  U  E
|            |            |            |            |  D  R     FP    20 37.74   0.95
| N=   6     | N=   4     | N=   2     | N=   1     |  G  T     FJ    14 26.42   0.76"
|            |            |            |            |  I  S
| %=11.32    | %= 7.55    | %= 3.77    | %= 1.89    |  N        IN    13 24.53   1.28
|            |            |            |            |  G        EN    16 30.19   1.24
| I= 1.26    | I= 0.49#   | I= 0.98    | I= 1.47    |
|            |            |            |            |           IS    10 18.87   0.98
-------------------------------------------------------           ES    14 26.42   0.71#

   NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
         #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
         *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

   BASE POPULATION USED IN CALCULATING SELECTION RATIO:
   MEDICAL ASSISTANT STUDENTS AND PRACTITIONERS
   BASE TOTAL N =     78. SAMPLE AND BASE ARE DEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER          E   1.70   IJ   0.56   SJ   1.88   IN   0.12
                                  I   1.70   IP   0.53   SP   3.46   EN   0.10
  0.56    1.00    1.00    0.56               EP   0.00   NP   0.01   IS   1.00
                                  S   0.01   EJ   1.96   NJ   0.53   ES   8.20
  0.56    0.38    0.55    0.55    N   0.01
                                             ST   0.09   TJ   0.09
******    0.07    0.32    0.55    T   0.00   SF  17.11   TP   0.05
                                  F   0.00   NF   0.13   FP   0.28
  0.42    0.01    1.00    1.00               NT   0.05   FJ   4.91
                                  J   0.53
                                  P   0.53
```

```
SOURCE OF DATA:                      GROUP                     MBTI TYPE TABLE
                                   TABULATED:            CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                  OF PSYCHOLOGICAL TYPE
   AND OTHER CONTRIBUTORS            MEDICAL
 HEW CONTRACT 231-76-0051         COMMUNICATIONS         LEGEND: % = PERCENT OF
   AMSA FOUNDATION - CAPT            STUDENTS            TOTAL CHOOSING THIS GROUP
                                                         WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                   I = SELFSELECTION INDEX;
                                                         RATIO OF PERCENT OF TYPE
                                     N=    48            IN GROUP TO % IN SAMPLE.
 TABLE S-9

       SENSING TYPES              INTUITIVE TYPES
 WITH          WITH           WITH         WITH                        N     %       I
 THINKING      FEELING        FEELING      THINKING
-------------------------------------------------------
| I S T J    | I S F J    | I N F J    | I N T J    |  J          E    37  77.08   1.37#
|            |            |            |            |  U          I    11  22.92   0.52#
|            |            |            |            |  D
| N=    1    | N=    1    | N=    2    | N=    2    |  G          S    21  43.75   0.77
|            |            |            |            |  I          N    27  56.25   1.31
| %= 2.08    | %= 2.08    | %= 4.17    | %= 4.17    |  N I
|            |            |            |            |  G N        T    13  27.08   0.77
| I= 0.34    | I= 0.28    | I= 1.38    | I= 1.82    |    T        F    35  72.92   1.12
|            |            |            |            |    R
-------------------------------------------------------    O        J    18  37.50   0.86
| I S T P    | I S F P    | I N F P    | I N T P    |    V        P    30  62.50   1.11
|            |            |            |            |    E
|            |            |            |            |    R        IJ    6  12.50   0.67
| N=    0    | N=    1    | N=    3    | N=    1    |    T        IP    5  10.42   0.42"_
|            |            |            |            |    S
| %= 0.0     | %= 2.08    | %= 6.25    | %= 2.08    |  P          EP   25  52.08   1.65#
|            |            |            |            |  E          EJ   12  25.00   1.01
| I= 0.0     | I= 0.27    | I= 0.67    | I= 0.52    |  R
|            |            |            |            |  C          ST    7  14.58   0.68
-------------------------------------------------------  E          SF   14  29.17   0.82
| E S T P    | E S F P    | E N F P    | E N T P    |  P
|            |            |            |            |  T          NF   21  43.75   1.49"
|            |            |            |            |  I          NT    6  12.50   0.92
| N=    3    | N=    8    | N=   13    | N=    1    |  V
|            |            |            |            |  E          SJ    9  18.75   0.60
| %= 6.25    | %=16.67    | %=27.08    | %= 2.08    |  S E        SP   12  25.00   0.97
|            |            |            |            |    X
| I= 1.42    | I= 1.72    | I= 2.10#   | I= 0.46    |    T        NP   18  37.50   1.22
|            |            |            |            |    R        NJ    9  18.75   1.53
-------------------------------------------------------    A
| E S T J    | E S F J    | E N F J    | E N T J    |  J V        TJ    8  16.67   0.91
|            |            |            |            |  U E        TP    5  10.42   0.62
|            |            |            |            |  D R
| N=    3    | N=    4    | N=    3    | N=    2    |  G T        FP   25  52.08   1.31
|            |            |            |            |  I S        FJ   10  20.83   0.82
| %= 6.25    | %= 8.33    | %= 6.25    | %= 4.17    |  N
|            |            |            |            |  G          IN    8  16.67   0.89
| I= 0.89    | I= 0.78    | I= 1.49    | I= 1.51    |             EN   19  39.58   1.62"
|            |            |            |            |
-------------------------------------------------------             IS    3   6.25   0.25#_
                                                                    ES   18  37.50   1.18

  NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
        "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
        #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
        *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

  BASE POPULATION USED IN CALCULATING SELECTION RATIO:
  HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
  BASE TOTAL N =  6738. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

         TYPE TABLE ORDER             E    8.41   IJ    1.23   SJ    3.48   IN    0.13
                                      I    8.41   IP    0.03   SP    0.01   EN    5.97
 0.35     0.17     0.63     0.62                  EP    9.33   NP    1.00   IS    0.00
                                      S    3.39   EJ    0.00   NJ    1.87   ES    0.69
 0.26     0.[illegible]     0.61     0.71         N    3.39
                                                  ST    1.35   TJ    0.08
 0.70     2.65     6.51     0.50      T    1.35   SF    0.83   TP    0.24
                                      F    1.35   NF    4.70   FP    3.09
 0.97     0.61     0.67     0.63                  NT    0.05   FJ    0.50
                                      J    0.70
                                      P    0.70
```

```
SOURCE OF DATA:                  GROUP                MBTI TYPE TABLE
                               TABULATED:         CENTER FOR APPLICATIONS
MARY H. MCCAULLEY, PH.D.                            OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS       MEDICAL RECORDS
HEW CONTRACT 231-76-0051       ADMINISTRATION     LEGEND: % = PERCENT OF
 AMSA FOUNDATION - CAPT         STUDENTS AND      TOTAL CHOOSING THIS GROUP
                               PRACTITIONERS      WHO FALL INTO THIS TYPE.
TABLE CREATED 7/31/77                             I = SELFSELECTION INDEX:
                                                  RATIO OF PERCENT OF TYPE
                                 N=   98          IN GROUP TO % IN SAMPLE.

TABLE S-10

    SENSING TYPES                INTUITIVE TYPES
WITH          WITH          WITH          WITH                            N      %       I
THINKING      FEELING       FEELING       THINKING
---------------------------------------------------------          E        49  50.00   0.89
| I S T J     | I S F J     | I N F J     | I N T J     |  J       I        49  50.00   1.14
|             |             |             |             |  U
|             |             |             |             |  D       S        69  70.41   1.24#
| N=   8      | N=  21      | N=   3      | N=   4      |  G       N        29  29.59   0.69#
|             |             |             |             |  I
| %= 8.16     | %=21.43     | %= 3.06     | %= 4.08     |  N I     T        25  25.51   0.73"
|             |             |             |             |  G N     F        73  74.49   1.15"
| I= 1.33     | I= 2.92*    | I= 1.02     | I= 1.79     |    T
|             |             |             |             |    R     J        67  68.37   1.57*
---------------------------------------------------------    O     P        31  31.63   0.56*
| I S T P     | I S F P     | I N F P     | I N T P     |    V
|             |             |             |             |    E     IJ       36  36.73   1.96*
|             |             |             |             |    R     IP       13  13.27   0.53#
| N=   0      | N=   7      | N=   4      | N=   2      |    T
|             |             |             |             |    S     EP       18  18.37   0.58#
| %= 0.0      | %= 7.14     | %= 4.08     | %= 2.04     |  P       EJ       31  31.63   1.28
|             |             |             |             |  E
| I= 0.0      | I= 0.93     | I= 0.44     | I= 0.51     |  R       ST       15  15.31   0.71
|             |             |             |             |  C       SF       54  55.10   1.55*
---------------------------------------------------------  E
| E S T P     | E S F P     | E N F P     | E N T P     |  P       NF       19  19.39   0.66"
|             |             |             |             |  T       NT       10  10.20   0.75
|             |             |             |             |  I
| N=   1      | N=   9      | N=   7      | N=   1      |  V       SJ       52  53.06   1.70*
|             |             |             |             |  E       SP       17  17.35   0.68
| %= 1.02     | %= 9.18     | %= 7.14     | %= 1.02     |  S E
|             |             |             |             |    X     NP       14  14.29   0.46*
| I= 0.23     | I= 0.95     | I= 0.55     | I= 0.22     |    T     NJ       15  15.31   1.25
|             |             |             |             |    R
---------------------------------------------------------    A     TJ       21  21.43   1.17
| E S T J     | E S F J     | E N F J     | E N T J     |  J V     TP        4   4.08   0.24_
|             |             |             |             |  U E
|             |             |             |             |  D R     FP       27  27.55   0.70"
| N=   6      | N=  17      | N=   5      | N=   3      |  G T     FJ       46  46.94   1.86*
|             |             |             |             |  I S
| %= 6.12     | %=17.35     | %= 5.10     | %= 3.06     |  N       IN       13  13.27   0.71
|             |             |             |             |  G       EN       16  16.33   0.67
| I= 0.87     | I= 1.61"    | I= 1.22     | I= 1.11     |
|             |             |             |             |          IS       36  36.73   1.46#
---------------------------------------------------------          ES       33  33.67   1.06

    NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
         "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
         #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
         *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

    BASE POPULATION USED IN CALCULATING SELECTION RATIO:
    HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
    BASE TOTAL N =  6738. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER            E    1.53   IJ  20.22   SJ  21.23   IN   1.86
                                    I    1.53   IP   7.10   SP   3.53   EN   3.40
  0.68    27.56    0.97    0.28                 EP   7.75   NP  12.41   IS   6.95
                                    S    7.13   EJ   2.46   NJ   0.84   ES   0.14
  0.05     0.04    0.08    0.42     N    7.13
                                                ST   2.20   TJ   0.66
  0.12     0.03    2.85    0.13     T    3.91   SF  16.21   TP   0.00
                                    F    3.91   NF   4.70   FP   5.90
  0.13     4.36    0.77    0.94                 NT   0.96   FJ  23.81
                                    J   24.23
                                    P   24.23
```

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

MEDICAL RECORDS
ADMINISTRATION
STUDENTS

N= 53

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE.
I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE S-11

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
I S T J N= 5 %= 9.43 I= 1.54	I S F J N= 10 %=18.87 I= 2.57#	I N F J N= 1 %= 1.89 I= 0.63	I N T J N= 0 %= 0.0 I= 0.0	JUDGING / INTROVERTS
I S T P N= 0 %= 0.0 I= 0.0	I S F P N= 6 %=11.32 I= 1.47	I N F P N= 1 %= 1.89 I= 0.20	I N T P N= 1 %= 1.89 I= 0.47	PERCEPTIVES / INTROVERTS
E S T P N= 0 %= 0.0 I= 0.0	E S F P N= 6 %=11.32 I= 1.17	E N F P N= 4 %= 7.55 I= 0.59	E N T P N= 1 %= 1.89 I= 0.42	PERCEPTIVES / EXTRAVERTS
E S T J N= 4 %= 7.55 I= 1.07	E S F J N= 10 %=18.87 I= 1.76	E N F J N= 2 %= 3.77 I= 0.90	E N T J N= 2 %= 3.77 I= 1.37	JUDGING / EXTRAVERTS

	N	%	I
E	29	54.72	0.97
I	24	45.28	1.03
S	41	77.36	1.36#
N	12	22.64	0.53#
T	13	24.53	0.70
F	40	75.47	1.16
J	34	64.15	1.47#
P	19	35.85	0.63#
IJ	16	30.19	1.61"
IP	8	15.09	0.60
EP	11	20.75	0.66
EJ	18	33.96	1.37
ST	9	16.98	0.79
SF	32	60.38	1.70*
NF	8	15.09	0.51"
NT	4	7.55	0.55
SJ	29	54.72	1.75*
SP	12	22.64	0.88
NP	7	13.21	0.43#
NJ	5	9.43	0.77
TJ	11	20.75	1.14
TP	2	3.77	0.22"_
FP	17	32.08	0.81
FJ	23	43.40	1.72#
IN	3	5.66	0.30"_
EN	9	16.98	0.70
IS	21	39.62	1.58"
ES	20	37.74	1.18

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
BASE TOTAL N = 6738. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.37	10.19	0.69	0.39
0.17	0.96	0.09	0.52
0.16	0.16	0.29	0.51
0.96	3.60	0.93	0.64

E	0.05	IJ	4.48	SJ	13.41	IN	0.02
I	0.05	IP	2.75	SP	0.26	EN	1.56
S	8.93	EP	2.82	NP	7.65	IS	5.90
N	8.93	EJ	2.40	NJ	0.63	ES	0.83
T	2.58	ST	0.63	TJ	0.22		
F	2.58	SF	14.22	TP	0.01		
J	9.10	NF	5.22	FP	1.25		
P	9.10	NT	0.23	FJ	9.11		

SOURCE OF DATA:

MARY H. MCCAULLEY, PH.D.
AND OTHER CONTRIBUTORS
HEW CONTRACT 231-76-0051
AMSA FOUNDATION - CAPT

TABLE CREATED 7/31/77

GROUP
TABULATED:

MEDICAL RECORDS
ADMINISTRATION
PERSONNEL

N= 45

MBTI TYPE TABLE
CENTER FOR APPLICATIONS
OF PSYCHOLOGICAL TYPE

LEGEND: % = PERCENT OF TOTAL CHOOSING THIS GROUP WHO FALL INTO THIS TYPE. I = SELFSELECTION INDEX: RATIO OF PERCENT OF TYPE IN GROUP TO % IN SAMPLE.

TABLE S-12

SENSING TYPES WITH THINKING	SENSING TYPES WITH FEELING	INTUITIVE TYPES WITH FEELING	INTUITIVE TYPES WITH THINKING	
ISTJ N= 3 %= 6.67 I= 1.09	ISFJ N= 11 %=24.44 I= 3.33*	INFJ N= 2 %= 4.44 I= 1.48	INTJ N= 4 %= 8.89 I= 3.89"_	JUDGING INTROVERTS
ISTP N= 0 %= 0.0 I= 0.0	ISFP N= 1 %= 2.22 I= 0.29	INFP N= 3 %= 6.67 I= 0.71	INTP N= 1 %= 2.22 I= 0.55	PERCEPTIVES INTROVERTS
ESTP N= 1 %= 2.22 I= 0.50	ESFP N= 3 %= 6.67 I= 0.69	ENFP N= 3 %= 6.67 I= 0.52	ENTP N= 0 %= 0.0 I= 0.0	PERCEPTIVES EXTRAVERTS
ESTJ N= 2 %= 4.44 I= 0.63	ESFJ N= 7 %=15.56 I= 1.45	ENFJ N= 3 %= 6.67 I= 1.59	ENTJ N= 1 %= 2.22 I= 0.81	JUDGING EXTRAVERTS

	N	%	I
E	20	44.44	0.79
I	25	55.56	1.27
S	28	62.22	1.09
N	17	37.78	0.88
T	12	26.67	0.76
F	33	73.33	1.13
J	33	73.33	1.69*
P	12	26.67	0.47*
IJ	20	44.44	2.37*
IP	5	11.11	0.44"_
EP	7	15.56	0.49"
EJ	13	28.89	1.17
ST	6	13.33	0.62
SF	22	48.89	1.38
NF	11	24.44	0.83
NT	6	13.33	0.98
SJ	23	51.11	1.63#
SP	5	11.11	0.43"_
NP	7	15.56	0.51"
NJ	10	22.22	1.81"
TJ	10	22.22	1.22
TP	2	4.44	0.26"_
FP	10	22.22	0.56"
FJ	23	51.11	2.02*
IN	10	22.22	1.19
EN	7	15.56	0.64
IS	15	33.33	1.33
ES	13	28.89	0.91

NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
" IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. > 3.8;
IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. > 6.6;
* IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
_ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

BASE POPULATION USED IN CALCULATING SELECTION RATIO:
HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
BASE TOTAL N = 6738. SAMPLE AND BASE ARE INDEPENDENT.

* * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

TYPE TABLE ORDER

0.94	19.00	0.61	0.02
0.25	0.24	0.59	0.68
0.69	0.61	0.26	0.17
0.55	1.08	0.41	0.97

E	2.53
I	2.53
S	0.50
N	0.50
T	1.40
F	1.40
J	16.15
P	16.15

IJ	19.18	SJ	8.17
IP	0.04	SP	0.02
EP	5.28	NP	4.88
EJ	0.41	NJ	4.12
ST	1.77	TJ	0.47
SF	3.51	TP	0.03
NF	0.54	FP	5.67
NT	0.00	FJ	15.73

IN	0.37
EN	1.89
IS	1.62
ES	0.18

```
SOURCE OF DATA:                        GROUP                      MBTI TYPE TABLE
                                     TABULATED:              CENTER FOR APPLICATIONS
 MARY H. MCCAULLEY, PH.D.                                     OF PSYCHOLOGICAL TYPE
 AND OTHER CONTRIBUTORS             COMMUNITY OUTREACH
 HEW CONTRACT 231-76-0051                WORKERS             LEGEND: % = PERCENT OF
  AMSA FOUNDATION - CAPT                                     TOTAL CHOOSING THIS GROUP
                                                             WHO FALL INTO THIS TYPE.
 TABLE CREATED 7/31/77                                       I = SELFSELECTION INDEX:
                                                             RATIO OF PERCENT OF TYPE
                                         N=   46             IN GROUP TO % IN SAMPLE.

TABLE S-13

     SENSING TYPES               INTUITIVE TYPES
WITH        WITH        WITH        WITH                         N      %       I
THINKING    FEELING     FEELING     THINKING
-------------------------------------------------        E   29  63.04  1.12
| I S T J   | I S F J   | I N F J   | I N T J   |  J     I   17  36.96  0.84
|           |           |           |           |  U
|           |           |           |           |  D     S   39  84.78  1.49*
| N=  7     | N=  8     | N=  1     | N=  0     |  G     N    7  15.22  0.35*
|           |           |           |           |  I
| %=15.22   | %=17.39   | %= 2.17   | %= 0.0    |  N I   T   21  45.65  1.30
|           |           |           |           |  G N   F   25  54.35  0.84
| I= 2.48"  | I= 2.37#  | I= 0.72   | I= 0.0    |    T
|           |           |           |           |    R   J   33  71.74  1.65*
-------------------------------------------------    O   P   13  28.26  0.50*
| I S T P   | I S F P   | I N F P   | I N T P   |    V
|           |           |           |           |    E   IJ  16  34.78  1.85#
|           |           |           |           |    R   IP   1   2.17  0.09*
| N=  0     | N=  1     | N=  0     | N=  0     |    T
|           |           |           |           |    S   EP  12  26.09  0.83
| %= 0.0    | %= 2.17   | %= 0.0    | %= 0.0    |  P     EJ  17  36.96  1.49
|           |           |           |           |  E
| I= 0.0    | I= 0.28   | I= 0.0 "  | I= 0.0    |  R     ST  19  41.30  1.92#
|           |           |           |           |  C     SF  20  43.48  1.23
-------------------------------------------------  E
| E S T P   | E S F P   | E N F P   | E N T P   |  P     NF   5  10.87  0.37#
|           |           |           |           |  T     NT   2   4.35  0.32
|           |           |           |           |  I
| N=  2     | N=  5     | N=  4     | N=  1     |  V     SJ  31  67.39  2.16*
|           |           |           |           |  E     SP   8  17.39  0.68
| %= 4.35   | %=10.87   | %= 8.70   | %= 2.17   |  S E
|           |           |           |           |    X   NP   5  10.87  0.35#
| I= 0.95   | I= 1.12   | I= 0.68   | I= 0.48   |    T   NJ   2   4.35  0.36
|           |           |           |           |    R
-------------------------------------------------    A   TJ  18  39.13  2.15*
| E S T J   | E S F J   | E N F J   | E N T J   |  J V   TP   3   6.52  0.39
|           |           |           |           |  U E
|           |           |           |           |  D R   FP  10  21.74  0.55"
| N= 10     | N=  6     | N=  0     | N=  1     |  G T   FJ  15  32.61  1.29
|           |           |           |           |  I S
| %=21.74   | %=13.04   | %= 0.0    | %= 2.17   |  N     IN   1   2.17  0.12#
|           |           |           |           |  G     EN   6  13.04  0.54
| I= 3.08*  | I= 1.21   | I= 0.0    | I= 0.79   |
|           |           |           |           |        IS  16  34.78  1.39
-------------------------------------------------        ES  23  50.00  1.57#

    NOTE CONCERNING SYMBOLS FOLLOWING THE SELECTION RATIOS:
          "  IMPLIES SIGNIFICANCE AT THE .05 LEVEL, I.E., CHI SQ. >  3.8;
          #  IMPLIES SIGNIFICANCE AT THE .01 LEVEL, I.E., CHI SQ. >  6.6;
          *  IMPLIES SIGNIFICANCE AT THE .001 LEVEL, I.E., CHI SQ. > 10.8.
 _ (UNDERSCORE) INDICATES FISHER'S EXACT PROBABILITY USED INSTEAD OF CHI-SQUARE.

    BASE POPULATION USED IN CALCULATING SELECTION RATIO:
    HIGH SCHOOL JUNIORS AND SENIORS IN CAPT DATA BANK
    BASE TOTAL N =  6738. SAMPLE AND BASE ARE INDEPENDENT.

 * * * * CALCULATED VALUES OF CHI SQUARE OR FISHER'S EXACT PROBABILITY * * * *

        TYPE TABLE ORDER              E    0.86    IJ    7.64    SJ   27.62    IN    0.00
                                      I    0.86    IP    0.00    SP    1.65    EN    3.19
 6.46      6.75      0.93      0.40                EP    0.62    NP    0.00    IS    2.28
                                      S   14.44    EJ    3.65    NJ    0.11    ES    6.89
 0.25      0.17      0.03      0.25   N   14.44
                                                   ST   10.58    TJ   13.29
 0.98      0.76      0.48      0.52   T    2.23    SF    1.28    TP    0.07
                                      F    2.23    NF    0.01    FP    6.12
14.85      0.25      0.25      0.97                NT    0.08    FJ    1.30
                                      J   14.79
                                      P   14.79
```